COMMUNICATIONS
WORLD

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OTCI set for green light on South Pacific network

By Noel Bennett

SYDNEY — Following a vigorous development and consultative program, OTC International looks set to get the go-ahead to establish a communications network, worth a reported $A140 million, for nations in the South Pacific.

The concept, Pact (Pacific Area Co-operative Telecommunications) network, has been favorably received by the management group of the South Pacific Telecommunications Development Program, according to OTC International, which also anticipates that the proposed network will operate from January 1, 1990.

Under the proposal, available Intelsat satellite circuits will be pooled for use by the whole network with a Demand Assigned Multiple Access (Dama) switch located in Sydney allocating circuits to users as required.

OTC International, a fully owned subsidiary of OTC (Overseas Telecommunications Commission Australia), said this method represents a more efficient use of satellite capacity than if individual nations were to open up sufficient permanently assigned circuits to cover peak demand.

It would also be cheaper as individual nations will not have to pay for circuits which would be surplus during off-peak periods. Three levels of satellite earth stations will be used in the network:

- Remote centres will have a small dish earth station to which individual subscribers will be connected through a local telephone network;
- The existing international capital city earth station in most island nations will be used as the hub station for that country and will normally be used as the main communications point for traffic with other countries in the region or for international traffic.
- The Dama centre will be located at OTC's Sydney's satellite earth station and will allocate circuits between users, to meter their usage for accounting purposes and to ensure efficient operation of the system.

In operation, once the Dama centre allocates a circuit, a direct link via satellite is created between the two users and the Dama centre will only register the length of time the circuit is used. Accordingly, any circuit, even between remote centres in separate nations, will involve no more than one satellite hop, desirable for telephone communications.

Also, the Sydney hub will provide access for these nations to OTC's extensive submarine cable networks for international traffic, again requiring only one satellite hop, OTCI said.

Extensive backup facilities will be provided to ensure the highest possible level of reliability for the Dama network. To ensure national soverignty is not infringed, OTCI has proposed a management board, comprised of participating nations, which will be responsible, in consultation with OTC, for the overall structure of the network and future directions for its commercial and technical development.

OTCI has already been successful in gaining major telecommunications contracts in Asia and the Pacific.

Satellites beat landlines — now

CANBERRA — Scientific and engineering organisations as well as the general community are beginning to take advantage of Aussat.

British Aerospace Australia (BAeA), Adelaide, is to use Aussat to link in with AWA Micro-Electronics, Sydney, and people at Birdsville chipped in to have an STD service using Aussat rather than waiting for Telecom to provide the service using its Digital Radio Concentrator System (DRCS).

BAeA operates the computer-aided ATC (Asic Technology Centre) in Adelaide while AWA MicroElectronics has established a new Asic (Application Specific Integrated Circuits) silicon chip manufacturing plant in Homebush, Sydney.

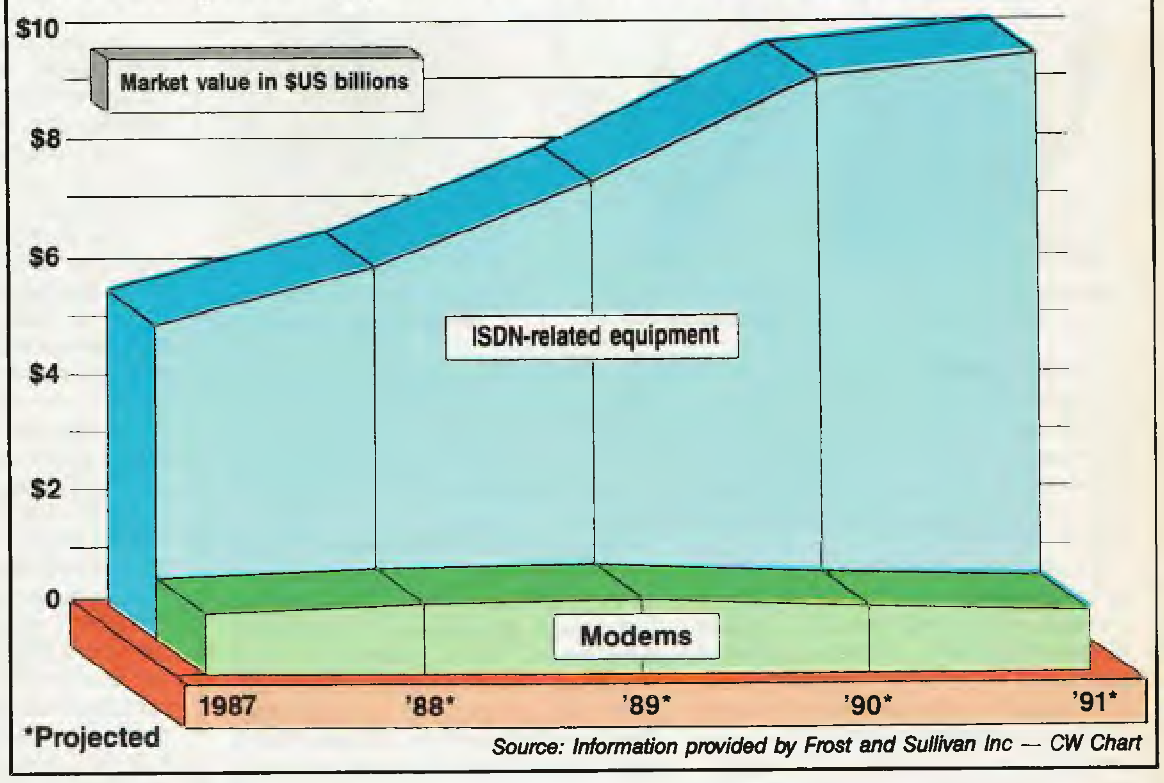
BAeA uses the AWA facility to develop chips for its own use and for clientele. The design is then passed back to AWA.

While these links will be by land line initially, a spokesman said BAeA was developing an M-Sat satellite link as the data transmission costs, running at 2M-bit/sec, would be far lower than those provided by Telecom's terrestrial network.

The spokesman added, however, that it would be difficult to beat Telecom on costs where an optic fibre network was available.

BAeA was designing and building its own earth terminals for this exercise and would offer them to commercial organisations as well as educational institutes and other large data transmission users.

As ISDN picks up, modem revenue will start to fall back



Source: Information provided by Frost and Sullivan Inc — CW Chart

The advent of ISDN was thought to sound the death-knell of one of the oldest pieces of equipment in the communications armory — the modem. However, a study by US research house, Frost & Sullivan Inc, indicates shipments will approximately double between 1987 to 1992, but the competition will cause modem prices to fall

Exicom buys AWA's telecoms manufacturing business set-up

MELBOURNE — Exicom Ltd, the rising new star in the Australian telecommunications scene, has purchased the telecommunications manufacturing businesses of AWA Ltd for a sum expected to be about $A70 million, but not exceeding $A75 million.

It is understood that AWA, the oldest player in Australian telecommunications, made the sale to strengthen its activities in its major telecommunications systems businesses.

The acquisition covers eight AWA businesses and related assets which are major suppliers of telephones and communications systems to Telecom Australia and Telecom New Zealand, and two factories in NSW and Victoria.

Acting chairman of Exicom Philip Cornish said the acquisition would make his company the largest Australian-owned telecommunications company and would help its export drive considerably.

"The acquisition is an important step towards our objective of becoming a fully integrated international telecommunications company," Cornish said.

"It will enable us to develop and commercialise our technology more vigorously."

The AWA plants produce some 500,000 to 600,000 new Touchfone 200 handsets for Telecom a year and this large scale manufacturing base would enable the company to move more easily into niche market, Cornish said. Other products are also involved in the deal.

Exicom, now on the main boards of Australian stock exchanges, supplies high-quality electronic equipment and subassemblies from its Taiwan operations to Oce Netherland BV for the European market.

The company, in a joint venture with Telecom Australia, also has new telecommunications products under development for the Australian and international markets next year.

The joint venture, Telecom Technologies, was formed last year to develop new products based on Exicom's telephone systems technology.

Continued page 3

Satcom Systems seeks switch service subscribers

SYDNEY — Satcom Systems is offering a comprehensive switch service for telex, facsimile and e-mail services both within and outside Australia.

Tandem computers act as the switching mechanism and the company provides software for IBM PCs and compatibles for message sending and receipt.

Satcom Systems received approval from Telecom late last year to provide this value-added service and has similar approval from OTC for overseas traffic.

A spokesman said advantages of the system included:

- Customers could use their existing PC hardware, together with a modem, avoiding the need to instal a telex machine and the software was "extremely easy to use".
- The service operated around the clock and subscribers could access the mail-box service, to check whether messages were available for retrieval, from a telephone.
- Multi-addressing, up to 10,000 addresses, was available by using only one transmission. Full Ascii transfer facilities were also available.
- Overseas telex messages were cheaper than using conventional methods.
- Customer billing was fully itemised.

Satcom Systems has established agents in Korea, Taiwan, Singapore, Hong Kong, Malaysia and New Zealand and is now looking to expand to other countries.

It is understood that similar services have been operating in the US, UK, and Europe for a number of years.

NEWS

New team with a new look at *Communications World*

Laurie Zaat: Publisher and Editor

Noel Bennett: Executive Editor

Michael Hewish: National Advertising Manager

A NEW publishing team has been brought together on *Communications World* to develop and expand the newspaper in line with expected high growth rates in data and telecommunications in Australia and the Asia/Pacific region.

Laurie Zaat, as Publisher and Editor, is responsible for implementing a strategy which will establish further *Communications World*'s editorial authority. He is also responsible for managing the publication as a business unit as it progresses through its investment phase and reaches communications decision-makers in New Zealand and Asian/Pacific countries.

Another important project is to develop the communications publication network of IDG Communications, the publisher of *Communications World*, with sister publications in the US, the UK, France and Spain with supplements covering Asia and NZ.

Zaat was previously NSW manager for Index Technology Pty Ltd, a company which markets Case (computer-assisted software engineering) products. Prior to that he was in marketing and sales with SPL (Australia) Pty Ltd, a major systems software company. He has also worked with Qantas and Westpac and progressed from systems analysis and programming.

Noel Bennett is promoted to Executive Editor from Senior Editor of *Computerworld Australia*, the leading publication for information systems professionals from IDG Communications. He is a specialist communications writer and has been with IDG Communications for many years. His experience includes a long stint as Editor of *The Australian's* weekly computer section.

Michael Hewish is National Advertising Manager and joins *Communications World* from *Australian Technology Review* and *Government Equipment News* where he was Publisher and Managing Editor. He previously spent over 13 years with Thomson Publications, a large general business and industry magazine publisher, in a variety of positions which included publishing and sales management.

Color graphics

To coincide with the announcement of the new publishing team, readers will note the upgraded look of *Communications World*. The paper quality has been improved which also brings benefits to reproduction of color graphics and ads.

The new design enhances readership through departmentalising information into news, data communications, telecommunications, local networking, industry and features.

The main sections are supported by opinion, columnists, analysis, and hopefully, some humor.

We hope you like the new *Communications World* — together with the readers and advertisers we serve, we're moving ahead rapidly.

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NSW govt's $A60m comms bill prompts review of network

By Noel Bennett

SYDNEY — The NSW Government is following other State governments in reviewing its telecommunications needs with a view to introducing its own network to effect a more flexible and cost-efficient service for departments and agencies.

The government is also stressing the opportunity to enable Australian companies to become more export-oriented through this new approach.

This revamping coincides with the arrival of Cable & Wireless in Australia and the strengthened position of Bond Media.

Cable & Wireless has said that it would welcome the opportunity to join with State governments in whatever role it could in their private network efforts. A spokeswoman for Bond Media said a joint submissions with Westrail had been made to the West Australian government and it was also talking with other governments about management and implementation of their private networks.

These moves are also bound to stimulate the interest of the telecommunications groups and users in Australia.

State government moves include:

- Western Australia: This State's moves have been marked by an attack on Telecom for threatening to prevent government agencies from sharing networks (*Communications World,* July, p1);
- South Australia: Last November, the government said a reshaping of its communications would save a conservatively estimated $A20 million a year and under Statelink, the name of the new State service, announced last June that NEC Australia and Telecom had won a tender to supply PABX, Touchphone 200 handsets and voicemail facilities (*Communications World,* July, p1). These contracts were the first stage of the new Statewide network;
- Queensland: This was the first State government to see the advantages of setting up its own network, Q-Net, based on Aussat's satellite facilities. This service was taken over by Bond Media.
- Victoria: The government has set up an agency, Vistel, to manage the government's communications needs as well as acting as a purchasing agent. The government has entered into a firm link with Telecom.

The NSW government has already received a proposal from Telecom but will also evaluate other proposals for its telecommunications systems in terms of recurrent cost to the State, government capital expenditure required, quality of services to be provided and contribution to industry development.

The government notes that much greater potential can be achieved by a closer relationship between industry and Telecom. The area to be covered by the network would include the Sydney CBD and metropolitan area, 22 major towns and about 300 other towns and cities.

This network proposal is bound to be given a greater impetus with the revelation of the State's financial position as it has been previously reported that its present telecommunications bill runs out at around $A60 million a year and is growing by a substantial 20 to 25 per cent a year.

Still a role for Woomera, says minister

ADELAIDE — Despite interest in building a spaceport at Cape York, Queensland, there was still a role for Woomera in South Australia, the Minister for State Development and Technology, Lynn Arnold, said recently.

He backed up the claim, made at the 4th National Space Engineering Symposium here, by noting the increasing role of organisations within the State in the space industry.

Some activities included:

■ Development by British Aerospace Australia of a tracking scanner for the European Space Agency's earth resources satellite;

■ Recent launch by Codan of a prototype satellite ground station developed for OTC and work by British Aerospace and the State government in a complementary project to develop a medium-capacity earth station.

These and other developments clearly put South Australia in a strong position to develop its involvement in the local and international space industry, Arnold said.

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briefs

NDD contract briefing

SYDNEY — Officials of Japan's giant Nippon Denshin Denwa (Japan Telegraph and Telephone) corporation are giving a special briefing to Australian exporters wanting to bid for a slice of NDD's massive 36 billion yen annual equipment imports.

The officials will meet Australian exporters at a seminar in Sydney on September 5 and in Melbourne on September 8 — both organised by the Australian Trade Commission (Austrade).

NDD is Japan's biggest importer of telecommunications equipment and purchased items include PABX and private line-switching equipment, data terminal equipment, modem and network control units, computer system memory materials, fax machines, power supplies, measuring and peripheral computer equipment, video information retrieval terminals, conduits, office supplies and equipment for research and investigation.

The Sydney seminar is being held in the morning of September 5 at Austrade State headquarters at 181 Castlereagh St, City. Melbourne's seminar will be held on the morning of September 8 at Austrade in the World Trade Centre.

Attendance at either seminar — including refreshments and a working lunch with NDD officials — is $75. Delegates can book for the seminars by calling Clyde Paton in Sydney on (02) 265 3570 or Kevin Gorie in Melbourne on (03) 611 3494.

Challenge for DMR

PERTH — The Challenge Bank, with a number of firsts to its name in telecommunications, will enter into an "integrated management partnership" with the DMR Group information systems consultancy, in a deal worth $A15 million.

Under the agreement, DMR, which was recently selected by Qantas to provide its wholly-owned information processing system, will provide a wide range of information systems to the bank including strategic planning, systems delivery and education.

As previously reported, the bank intended to undertake a massive upgrade of its whole DP and communications systems.

It is a user of Telecom's 48K-bit/sec DDS service between Western Australia and the eastern states and was the first commercial customer of the carrier's Iterra Data Service between Perth and Melbourne to provide a backup service for the terrestrial network.

SECV expands system

MELBOURNE — The State Electricity Commission of Victoria (SECV) is undertaking a major expansion of its State-wide management office automation system with the installation of three clustered DEC Vax 8820 minicomputers.

Under the deal, worth $A7.6 million, an additional 600 workstations will be connected to the system, increasing the population to 1000.

In addition to supporting core automation facilities, the system provides managers with videotext-based decision support information and internetworking facilities to SECV's other major computer systems, including DEC and IBM.

Don't make hard decisions on ISDN: wait and watch, research group warns users

By Noel Bennett

SYDNEY — Users should not rush into Integrated Services Digital Network (ISDN), as too many grey areas exist at present concerning regulatory processes, according to Compass Research Pty Ltd.

Despite promises of telecommunications services being changed dramatically in the next decade, maintaining a constant awareness of new developments in ISDN and assessing whether or not these are in their interests is more important to users now than making hard decisions about what services and products to buy.

In a most comprehensive examination of the state of ISDN, in Australia and overseas, Compass points out that users should be thinking to the long term about ways to increase efficiency and productivity through ISDN.

Users should, more importantly, also consider how they may be able to exploit ISDN as a marketing tool.

The document says the shape of ISDN, its costs, the amount of control users have over it and their range of choice in equipment purchases are regulatory more than technical issues.

Depending on the outcome of the present debate about deregulation, Telecom will have more or less power to juggle tariffs to suit itself, to say what is and what is not a value-added service on the ISDN, to say what equipment can and cannot be connected to an ISDN and who can sell it.

In its more than 100 pages, *ISDN — A Strategic Analysis Report* gives a breakdown on a full range of topics under such chapter headings as:

☐ Overview of ISDN Features and Services;
☐ The Players — Telecom, OTC and suppliers;
☐ What is ISDN and covering terminology as well as variations within standards as well as their evolution;
☐ ISDN in the public network;
☐ The role of PABX in ISDN;
☐ ISDN terminals;
☐ Future of ISDN.

Aiming the report at individuals responsible for planning corporate communications networks, for developing new information services exploring new market opportunities, the report could also be useful reading for general management, helped by a glossary of terms.

The report says Telecom is the main force driving ISDN, deciding when it will come, who will get it first, its cost and what services will be available.

However, OTC will have to negotiate with individual overseas carriers to resolve issues such as differences in national network standards and tariff structures.

The report designates LM Ericsson as the most important commercial organisation involved in ISDN in its role of supplying the AXE public switches.

That ISDN is not a straightforward, cut and dried operation — perhaps to be expected in this early stage of its implementation — is highlighted by these following observations:

☐ Differences in standards around the world could create compatibility problems for international ISDN services and for products designed for world markets;

☐ Some authorities are predicting that the 64K-bit/sec channels of ISDN will soon become adequate for applications such as video distribution.

In Australia, the report says Telecom will begin a full commercial service in May 1989 of the Primary Rate component, accessible from central business districts, except Darwin. Basic rate services will begin a year later.

On tariffs, Telecom is not expected to release this information until July 1989 and only then will users be able to discover where and how they will be able to save money with ISDN.

The report claims that Telecom is certain to set tariffs which will prevent too rapid a rise in demand for ISDN services which it would be unable to meet and which would result in under-use of its investment in existing services.

As to the future, the report notes that computer companies, including IBM, are co-operating with telecommunications manufacturers to develop networks where the switching and signalling power of ISDN will be enhanced by powerful processor and database systems able to be driven through the network and to control the network.

"This synergy will change telecommunications networks services dramatically later in the next decade," the report says. However, in general, the ISDN future is still in many ways uninformed, for while commitment has been made to the basic technology and much of this is in place, the tariff structures and the regulatory regimes under which ISDN will operate and the types of terminals that will use the ISDN network are still evolving.

With massive investments already being made, users must acquaint themselves with the immediate and long-term implications of ISDN, look carefully at how they can use ISDN to their advantage and participate in shaping its future, the report says.

The Compass Group, 8th Level, 99 Mount St, North Sydney 2060. Tel: (02) 957 1377.

Telecom/Hewlett-Packard joint venture targets top 500 companies

By Terry Watson

MELBOURNE — In what is seen as a move towards liberalisation, Telecom has entered into an agreement with Hewlett-Packard Australia to provide users with their total computing needs.

Under the terms of the agreement the new company, to be known as Telecom/Hewlett-Packard Pty Ltd, will aim at Australia's top 500 corporate companies, according to Hewlett-Packard managing director, Malcolm Kerr.

Kerr said: "We believe users want to rationalise the number of vendors with whom they have to deal, and the facilities available from the new company will give just this opportunity."

The company will operate out of HP's Melbourne headquarters and will be represented by Telecom and HP staff at board level.

At first it will only sell into Telecom's top 500 companies.

Telecom's first commercial venture into computing equipment with ICL Australia was the ill-fated Computerphone.

However, in this present situation, Telecom has not bought in equipment to resell as in the Computerphone episode, but has formed a 50/50 venture with HP, with risks and profits to be shared equally by both parties.

Chris Spence, of PC Consulting, said: "This is a terrific opportunity for both parties, but they have to get it right. They will be making integrated offerings to Australia's major accounts and there are no second chances at this level."

Malcolm Kerr . . . opportunity

Hewlett-Packard Australia has the sole marketing rights to HP products and employees of HP Australia hold shares in the Australian company.

Telecom/Hewlett-Packard will have access to Telecom R&D and this may well be used by Hewlett-Packard to satisfy some of the offset obligations necessary under its "partnership for development" agreement.

Exicom pays $70m for AWA's telecoms manufacture set-up

From page 1

Cornish said the acquisition would also place Exicom in an excellent position to capitalise on the changes which will accompany the future deregulation of the Australian telecommunications industry and the creation of a single EEC market in Europe.

The AWA divisions acquired include:

Telephones: One of two suppliers of standard telephones to Telecom Australia.

Small Business Systems: Manufactures and markets Commander small business communications systems.

Telephone Accessories: Manufactures and markets plugs, sockets, cords and general telephone cable accessories.

Digital Data Network: Manufactures and markets systems for use in Digital data networks in Australia and New Zealand.

Data Communications Equipment: Manufactures and markets a range of data modems and data terminal equipment.

Land and Mobile Communications: Manufactures and markets mobile, portable and base radios and accessories.

New Zealand Communications: Supplies all of the above, other than land and mobile communications products, to the New Zealand market.

Telecom New Zealand: Manages long term supply contracts to Telecom New Zealand. The New Zealand operations include a factory at Wellington, which is leased.

NEWS

Netview no CPU hog, tests prove

RESEARCH TRIANGLE PARK North Carolina — Seeking to refute competitors' depictions of Netview as a computer hog, IBM has released the results of internal benchmark tests which indicate that its network management system uses only a modest amount of CPU time on an IBM 3090 or 9370 host.

Benchmark tests measured the number of CPU seconds it took for the configuration to perform activites, such as host activation and deactivation and logon and logoff, with and without Netview. In each case, Netview's presence resulted in only a slight increase in CPU time.

For example, it took a CMC host running Netview Release 2 approximately 1600 CPU seconds to process 30K LU logon sessions; it took 1400 CPU seconds without the network management system. The added seconds are associated with the need for Netview to collect session awareness data from Vtam and process it, IBM said.

Fibre-optic Ethernet

SYDNEY — Integral Fibre Systems has developed an Ethernet network based upon fibre-optic technology to meet the demand for greater security of data communications, according to the general manager, Gordon Jalkemo.

It was once held that fibre optics were suitable only for government departments, he said.

However, that attitude was slowly changing as managers responsible for a multitude of data communication applications were becoming aware of the high level of security inherent in fibre optics as well as its other advantages.

The EFS system is said to be able to interconnect up to 1024 nodes in an Ethernet-compatible fibre-optic network and the company has already installed a large network based on this technology for a major government agency.

OTC grabs opportunity to compete internally

By Noel Bennett

SYDNEY — Taking advantage of the Federal government's new telecommunications policies which allow carriers to compete in one another's "backyard", OTC has secured its first value added service contract.

The contract, with the Australian Customs Service, is noteworthy as it does not involve carrying traffic outside Australia, but is purely internal. Further, it was won against a short list of tenderers from the public and private sectors.

It was only a few years ago that Telecom Australia, by strictly carrying out provisions of its charter, effectively finished an OTC electronic mail service operating in Australia. The service was an internal application of an overseas service provided by OTC.

However, OTC is also to face up to new competition — it is likely that Aussat will pick up data traffic business between Australia and New Zealand. Before the change in government policy, such services were the province of OTC.

To complicate further the roles of the three carriers, OTC is trialling in remote areas of Australia the use of the Inmarsat satellite, developed primarily for maritime purposes. This satellite service could be a potential time bomb for the national carriers. Under the Australian Customs Service contract, OTC is to provide the network at the heart of the ACS's new Exit (Exports Integration) system, which is expected to cut costs substantially for Australia's export industries.

The managing director of OTC, George Maltby, said the Customs Service had recognised the benefits for itself and Australian exporters of adopting electronic document interchange (EDI) to replace traditional paper-based processes. And indicating that this contract was not a "one off" affair, Maltby said OTC would be "aggressively pursuing further contracts within Australia".

The Inmarsat (International Maritime Satellite Organisation) trialling exercise is based on the satellite's ability to relay messages between virtually any two locations in the world. The lightweight (2.3Kg) earth station associated with the new system, Standard-C, makes it extremely attractive for remote areas. Services include telex, paging, data transmission and remote monitoring.

OTC said Standard-C is the lightweight, low-cost and compact solution to future maritime and remote communications.

Australian gets injection from Tandem

By Noel Bennett

RALEIGH, North Carolina — Paul Woods, founder of Systems Technology, SNA systems specialist, has obtained an investment injection from Tandem.

Some years ago, Woods expanded from Sydney to the US with the help of venture capital, seeking to take advantage of the much larger marketplace and in the process renamed the company, NetLink.

Speaking by telephone from his US headquarters, Woods said Tandem had invested $US2 million in the company and Netlink had also obtained a convertible loan.

Tandem would also now be able to resell Netlink's products and would also work jointly on development projects. This collaboration would result in better products than if each party continued to work separately.

As an example, Woods said users were looking for standards more than ever before and Netlink would gain from Tandem's involvement in the Unix world.

However, Netlink would also continue to market to its own large-sized customer base and would use this opportunity to introduce, where appropriate, Tandem people to these accounts.

Package lets Wang minis support e-mail, file transfer

LOWELL, Mass — Wang Laboratories has responded to the needs of some of its largest customers by introducing software that will enable its VS minicomputers to support the Transmission Control Protocol/Internet Protocol. The product has been released in Australia.

The Wang VS TCP Interconnect enables Wang minicomputers to support electronic mail and file transfer, as well as remote log-on to non-Wang hosts tied together on a TCP/IP-based local network.

Wang VS TCP Interconnect supports three TCP/IP applications.

Telnet is a virtual terminal application that allows Wang VS workstation users to log on to other vendors' systems, including IBM and DEC processors. File Transfer Protocol supports text and data file transfer between Wang and non-Wang systems, even while users have full use of their workstations.

The third application, Simple Mail Transfer Protocol (SMTP), allows different vendors' systems to exchange e-mail over a TCP/IP network. It also supports the exchange of Wang Word Processing and Wang WP Plus documents between Wang Office and SMTP users on non-Wang systems. Wang Office is Wang's integrated office application suite.

Wang also said the product allows VS systems to support Wang Systems Networking (WSN), Open Systems Interconnection and TCP/IP protocols simultaneously without additional hardware or software. Other vendors required dedicated physical links for each protocol.

Although the new software makes Wang compatible with TCP/IP, Wang stressed the move should not be seen as a shift away from the Office environment. The company noted that the SMTP portion uses Office as the user interface. Rather than shift away from Office, the product allows users to communicate with equipment from other vendors by using TCP/IP.

In Australia, the Wang VS TCP Interconnect can be licensed for $A7500 to $A22,000 depending on the configuration.

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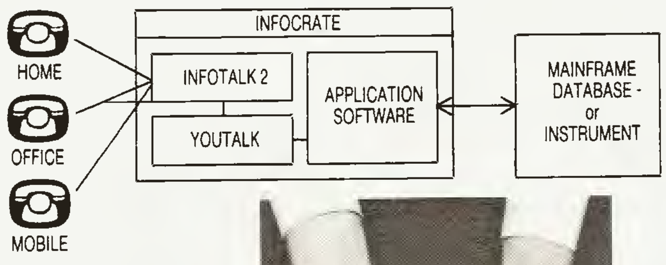

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British giant joins in liberalisation deal

By Noel Bennett

SYDNEY — Cable & Wireless Plc, Britain, major carrier and international service provider, has joined with Consolidated Press Holdings to take advantage of opportunities likely to occur in Australia following the liberalisation of the telecommunications market.

Further, the carrier intends to pursue export opportunities for the telecommunications services developed by Intelcom Pty Ltd, the Consolidated Press Holdings' company which handles the parent's interest in this area.

The chairman of Cable & Wireless Australia Pty Ltd, Bill Schmidt — a former general manager of OTC — said deregulation was occurring around the world and the parent company was seeking to take advantage of any opportunities that arose.

Cable & Wireless had chosen to go in with Consolidated Press Holdings as it had a successful track record and was very entrepreneurial, he said.

Intelcom Pty Ltd's present telecommunications business include: Ticketek, formerly known as Bass, a computerised entertainment booking service; BTS, provider of product and services in the paging, telephone answering and media advertising response areas; and InPho 00555, information provider covering some 36 categories,

General manager, Neil Tuckwell, said Cable & Wireless would seek export opportunities for these services worldwide and would help in the development of value added services in Australia.

Services in this field now provided by Cable & Wireless overseas would be examined as to whether they could be brought into Australia and Cable & Wireless would also consider bringing its own expertise to develop new services, he said.

Financial considerations of the deal, subject of approval by the Financial Investment Review Board and other government bodies, have not been disclosed.

Last year, Cable & Wireless Plc had a turnover of more than 900 million pounds sterling and among its activities owns the Mercury telecommunications service in the UK, a competitor with British Telecom, and is also engaged in international telecommunications.

Ironically, BTS was formerly known as Business Telecommunications Services, a group formed in 1980 by large companies, including IBM, which besides offering consultancy services was also a protagonist for greater liberalisation in telecommunications — which has occurred some eight years later.

If only all telephone systems were expandable.

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Arch of Triumph. Charles Boyer, Ingrid Bergman (1948). Telephones have always played a vital role in business life. And what better nomination for "Best Supporting Role" than the MD110 Business Communications System?

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ERICSSON

OPINION

The year of accountability

THIS year, 1988, may be remembered for more than being the bicentennial anniversary of the foundation of Australia — it could be the year when "accountability" reasserts itself into the language of the corridors of the public sector.

Certainly, accountability is now the new **modus operandi** ***for Telecom and in a broader telecommunications scenario, State governments are pursuing the goal of accountability by establishing plans to obtain greater efficiency and lowered costs in their escalating communications requirements.***

This increased emphasis on accountability, and correspondingly, responsibility to the public — the "shareholders" — is cast in terms of the balance sheet, the financials, accounting for and being responsible for monies spent.

However, the real world is not so clear cut as this signifies because the community, through its legislators, also demands that help be given to the disadvantaged.

Telecom, for example, has followed the Federal government's dictate that people no matter where they live should have equal access to telecommunications services, resulting in cross subsidies from the "city rich" to the "country poor".

But such financial considerations will not be the end of the legislators' interest in telecommunications.

The argument about the information poor and the information rich is an example of the growing and complex problems of advanced communities brought about by technology.

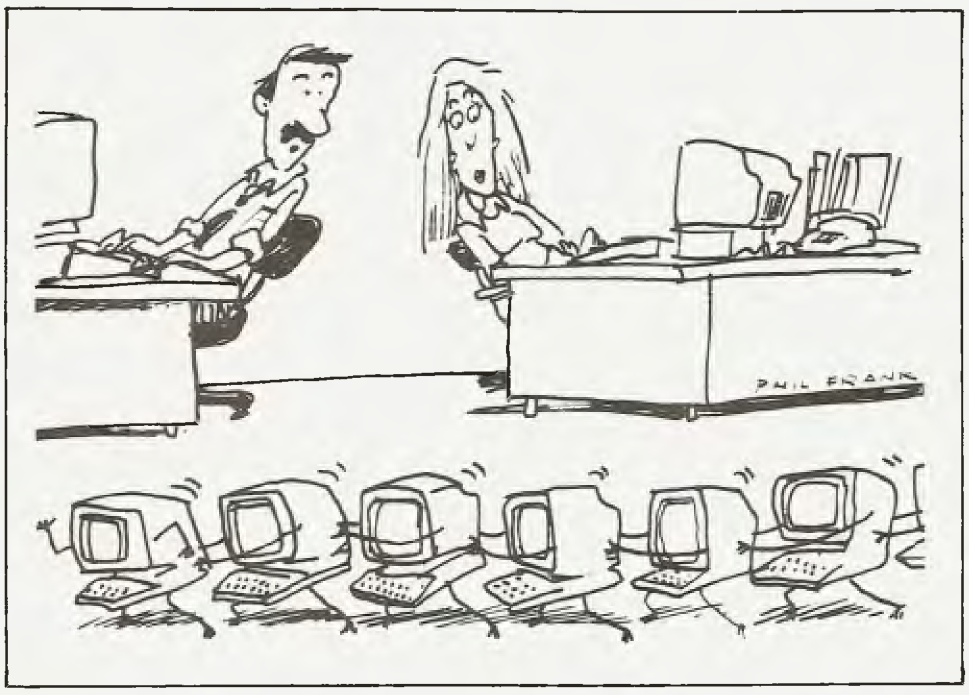
Concern about privacy is another; phone tapping, and information about individuals being sent across national boundaries are others.

The latest concern as reported in **The New York Times** ***is the ability of computer-knowledge investigators to access a multitude of different databases, in the US and abroad, to obtain information about a company or individuals.***

Such a skilled investigator can obtain relevant information which would not be known about by legal people pursuing traditional methods of investigation.

Out of such concerns comes the question of the rights of the individual and the accountability of the state to the individual.

The strong possibility is emerging that well-intentioned legislators will be fighting a losing cause to safeguard the individual against the proliferating and burgeoning use of communications technology.



"I see it two ways, Ethel . . . either we've been working too hard on this local area network, or we've got a serious bug to deal with."

The poor cousin with a major role to play well into the 1990s

By Mei Li Tan

SINCE the early days of local-area networking, Dos has been the most commonly used operating system for servers. But the mood of users is changing. Unix is gaining commercial acceptance both as an operating system and as a network server architecture.

The inherent advantages of Unix continue to mount. The operating system itself is designed to be multitasking- and multi-user-oriented from its inception and this makes it a natural choice for a communications operating system. Unlike Dos boxes which are single-user, single-tasking machines, Unix, and the machines it operates on, were designed as mechanisms for file sharing and for common access in a multi-user environment.

It is also designed to be transportable, making integration a relatively simpler task. An application written to Unix for one vendor will run with only minor changes on a different vendor's processor, which makes the integration of dissimilar equipment much easier.

Dos-based servers are based on PC hardware platforms that are inherently less powerful than their Unix counterparts. The real capability of the Unix operating system is that it is available on platforms ranging from PCs all the way up to minisupercomputers.

The number of processors being designed today to take advantage of the Unix operating system is also steadily increasing, with every major vendor now selling a Unix box. Along with this increase in interest is the corresponding climb in the number of programmers working to develop applications that support the operating system. This growing number of professionals familiar with the intricacies of Unix has further enhanced its attractiveness in the business community.

When we flip the coin to look at the downside of Unix, it must be acknowledged that it still suffers from being available in too many flavors. While AT&T's System V offering has generally been regarded as the dominant version, many systems vendors are seeking to muddy the waters and are still nitpicking over which version of Unix will be accepted as the operating system of choice for the marketplace.

The formation of the Open Systems

Continued page 7

LETTERS

Sceptics, we'll show you how it works!

From: Olavs Ritenis,
Managing Director,
Software Distribution International Pty Ltd, North Sydney.

IT is necessary to correct some misconceptions that may have risen as the result of comments made in your last issue (*Communications World,* July, p10) with respect to the Memo Electronic Mail system and its use by National Australia Bank (Nab).

1. One of the primary reasons why Memo was chosen (to replace IBM's Personal Services/Disoss) is the "user friendliness" of Memo.
2. Nab's experience (with more than 800 users on the Memo system currently) is that endusers definitely do not "need all the help they can get". In fact, the majority of endusers in Nab have had less than 20 minutes' training and through the user interface, the extensive online help and comprehensive enduser documentation have become proficient with Memo in a very short time.
3. The user interface is definitely not "complex, cluttered, (and) obviously written by programmers for programmers" — this is evidenced by Nab's statement that "there is a very high level of acceptance, even among non-DP users".

Memo is certainly written by programmers (as is most software) but has been designed specifically (as a result of inputs/feedback from thousands of endusers in hundred of organisations) to be easy enough for the "casual, non-DP" user to come to grips with and use effectively with minimal assistance. Were this not the case, organisations such as Volvo and Mercedes Benz could not boast 30,000 and 12,000 endusers respectively.

Finally, we would be more than happy to demonstrate Memo to any remaining sceptics in the full knowledge that any lingering doubts as to Memo's user friendliness would be quickly removed.

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IDG COMMUNICATIONS

OPINION

Is IT really the culprit in the decline of labor productivity?

By Barton Crockett

EXPENDITURES on information processing and communications will account for more than 7 per cent of the US gross national product by 1995. Yet as spending skyrockets, labor productivity in the US country is declining.

Data gathered by the Bureau of Labor Statistics shows that the total output per worker in the private nonfarm economy peaked in 1974 and has not recovered since. Further, the decline may be linked to the increasing predominance of information technology in the American economy.

These and other striking claims are made in a book called *Measuring Business Value of Information Technologies* soon to be published by the Washington DC-based International Centre for Information Technologies (ICIT).

Yet rather than using these statistics to denigrate the value of investing in information technology, as some national publications have, Measuring Business Value argues that such studies highlight the need for corporations to improve the way they measure the effectiveness of their investments in information technology.

Measuring Business Value is the culmination of a year-long research project by ICIT Research Study Team No.2. Five researchers — two former MIS directors at major US corporations and three academics — outline four methods businesses can use to quantify the return on their investments in information technology.

The researchers make two arguments. First, they claim that information technology, when properly used, can be of tremendous benefit to companies. They add, however, that many companies fail to make proper use of these systems and so invest in them foolishly.

Second, they argue that many of the benefits of information technology are "soft" and that companies find it difficult to measure how they profit from it. For instance, how do you figure out how much a business benefits from making better informed decisions?

The book is written with a decided slant toward data processing professionals, but many of the lessons explored — such as typical mistakes made in cost-justification — apply to managers of large communications networks as well.

For example, the Department of Defence once tried to claim a 59,900 per cent profit from a spread sheet software program that helped an accountant find and correct a $10 million error in a budget request.

The Defence Department credited "a less than $US10,000 personal computer with improving their odds" of catching the mistake by 60 per cent and thus being worth $US6 million.

This reasoning illustrates a common error: the mistake of misplaced attribution. The role of technology in catching the budget error is far overemphasised, while the roles of the accountant who actually found it and of the department officials who responded and fixed the budget are undervalued.

It also highlights another common mistake: only looking at extreme cases and ignoring average performance. Based on a highly selective view of gains, anybody with a job of any importance could say he or she is worth millions.

By this reasoning, for instance, a captain of a Boeing 747, who keeps the company from losing billions of dollars in an air crash, could demand an astronomical salary.

The authors argue that managers of computer networks are prone to overstating the importance of technology with similar logical errors.

Perhaps the most stirring writing comes in the introduction, which outlines studies documenting both the growth in spending on information and communications technology and the ambiguous, if not negative, effect this growth has had on national productivity.

● *Barton Crockett is a senior writer with US sister publication,* Network World.

The poor cousin with a major role to well into the 1990s

From page 6

Foundation (OSF) has the potential to put the acceptance of Unix back a couple of years and bring greater confusion to the marketplace. Just when the Unix operating system was beginning to gain a coherent direction and establish itself as a true industry standard, OSF has come along and divided the industry. Users moving to Unix because of its relative ease of transport will very likely be faced with the choice between two "industry standard" versions of Unix.

So what does this mean for the user seeking a communications solution from the Unix or Dos worlds? The Dos-dedicated user may well be tempted to wait for the arrival of OS/2 but when he has been waiting for 12 months since announcement, waiting another 12 months before the operating system proves its capabilities is not an attractive option.

Faced with the inability of Dos to cope with business requirements, the user has to look at Unix as a serious option, despite its shortcomings. OS/2 may well impede the progress of Unix as a network operating system but general feeling is that it is not a big enough obstacle to stem the tide. Indeed, once Hewlett-Packard and Microsoft's joint venture to merge OS/2 Lan Manager and Unix culminates in LM/X, the argument becomes moot.

With the growing commercial acceptance of Unix for traditional office applications, there is no doubt that it will have a major role to play in the networking environment well into the 1990s. No longer the poor cousin, Unix is indeed coming out of the closet and its capability as a communications integration tool cannot be underestimated.

● *Mei Li Tan is program manager — Communications, IDC Australia Pty Ltd.*

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AS/400 receives an optimistic review from the communications specialists

By Noel Bennett

SYDNEY — Fred Bishel thinks IBM's AS/400 is the company's best networking machine to date.

Richard Raban sees the AS/400 as being based on an upgraded System/38 architecture with rough edges removed, with the user interface conforming with Systems Application Architecture and also adding features from System/36, mainly in upgraded communications and the Office areas.

Frank O'Brien believes IBM has brought its midrange machine into its overall communications fold.

Clearly there are many facets of this new machine which will only be tested and explored when the machine is in volume delivery and installation and usage are fully under way — the introductory manuals combined are about 25cm thick.

Bishel, president, Application Design & Systems Inc, California, said he believed that of the 10,000 or so machines to be delivered this year, some 4000 will go to software developers so that an armory of applications software will be quickly available for the market.

The IBM AS/400 model B50

Software developers will be looking at the SAA component strongly as this facility would be of great interest to the marketplace with its strong move to decentralisation.

The expected availability of APPN during November would improve communications between the various devices on the network and the availability of Token-Ring will offload work to workstations and also facilitate communications without involvement of the CPU.

Bishel, who was visiting Australia to give seminars on behalf of his company's agent, Big Blue International, said the workstations would be able to "live among themselves" and the network could grow without imposing an additional burden on the CPU which he believed would become a "freight train" in time in terms of processing power.

Raban, project leader, Taubert Systems Pty Ltd, business and software consultants, said all features of SAA which IBM was previously talking about were included in AS/400.

In addition, IBM had released a new version of PC Support for links between Personal Computers and the AS/400.

Further, protocol adapters for asynchronous terminals would allow the use of 370-type terminals for connection to System/370 architecture machines.

The Office product combined word processing, electronic mail, calendars and Query for each access to the database.

PC Support allowed PS/2 machines to be connected to the AS/400 through Token Ring, but at the same time, these PS/2s could not be linked into a self-contained Token Ring with other PS/2s. That is, two "worlds" of communications could use Token Ring, but at present, these worlds could not communicate between themselves.

Raban said that under APPN, an advanced form of Electronic Document Interchange (EDI) was available under which a document, incorporating a query, could be sent from head office to every branch with the query executed from each local database with subsequent return to head office.

Transparent

Under distributed Data Management (DDM), information could be requested from any machine in the network with DDM ensuring the operation was transparent to the users.

That is, IBM now provided integration between PS/2, AS/400 and System/370-type machines as well as to non-IBM machines. Raban said IBM's commitment to communications could be seen by the Electronic Customer Support (ECS) facility whereby problems could be diagnosed remotely at IBM's own support centre and patches provided, if of a minor nature, remotely.

Fred Bishel . . . workstations will be able to "live among themselves"

Users also have access to IBM's Infosearch, an answer and question database. Raban said that Taubert Systems, as an IBM marketing contractor sellng AS/400s combined with its own software, could similarly support its own customers, remotely.

O'Brien, a Sydney-based independent consultant, said Token-Ring opened up a whole range of connectivity options which accorded with IBM's general move in this direction combined with Type 1 cabling.

Also, as the AS/400 was designed to work with IBM's SAA, the equivalent to higher levels of OSI models, it would allow information to be transferred between different IBM systems transparently. On the whole, Systems/36 and /38 were "orphans" in connectivity and software transference worlds, but AS/400 had corrected this situation.

For non-IBM users, the connectivity options of AS/400 together with modern architecture and processing capacity would mean that the machine would need to be taken seriously as an alternative to their present midrange machines.

A close look at Advanced Peer-to-Peer Networking

By Elisabeth Horwitt

FRAMINGHAM, Mass — IBM's Advanced Peer-to-Peer Networking (APPN), which provides distributed networking functions for IBM System/36s and Application System/400s, could emerge as a popular communications tool for other IBM systems and even non-IBM computers.

The question is whether those other systems will become full members of an APPN network, or end nodes that can communicate over an APPN network but lack full access to the protocol's unique features.

APPN is a proprietary network system with full functions only available to IBM System/36s and AS/400s. The vendor has yet to announce the networking protocol's inclusion in either Systems Network Architecture (SNA) or Systems Application Architecture (SAA).

On the other hand, APPN is based on PU2.1 and LU2.1 — two peer-to-peer protocols that belong to both SNA and SAA. And it provides distributed networking functions to Distributed Data Networking, another IBM offering that recently achieved SAA status.

As a member of the SAA contingent, APPN would go into the public domain, making it easier for other computer vendors to implement the protocol on their own systems. Some 75 vendors are considering doing this, according to Edward Stevens, a support manager at New York-based software house Systems Strategies.

SAA status would also make it likely for APPN to migrate to other IBM systems — the 370 in particular. IBM spokesmen have admitted that traditional Vtam networks could use certain APPN features, such as the ability to automatically update tables of network resources.

In the interim, however, any system supporting the PU2.1 protocol can participate in an APPN network — albeit in a limited fashion.

Popular tool for IBM, non-IBM computers?

Hewlett-Packard, for example, has already announced intentions to support PU2.1 and is considering providing a PU2.1-based gateway to APPN, according to HP product line manager Michael Strickland. HP computers would be able to request data and send messages on an APPN network but could not have access to APPN features such as automatic updating of network resource directories.

Fuller support of APPN by HP would depend on "whether it gets integrated into SNA, how tight its integration is with Netview and whether it will be part of IBM's longrange strategy," Strickland said.

IBM's 370 also supports APPN in a limited fashion. The latest releases of Vtam and Network Control Program support PU2.1, enabling users on one APPN network to communicate over an SNA backbone to another APPN network. Any node supporting PU2.1 can access IBM 370 hosts through multiple APPN network nodes that pass through the transmission to the correct host.

These configurations, while useful, are still a long way from having 370s communicate with one another and with other types of computers on a full APPN net.

IBM spokesmen have conceded the need for APPN-like functions on its Vtam and SNA systems. However, it remains to be seen whether APPN will actually become the basis for IBM host networks. Some say APPN is only a prototype for the SAA networking system to come.

● *Elizabeth Horwitt is senior editor, networking with sister US publication* Computerworld.

RYE BROOK, New York — IBM's Advanced Peer-to-Peer Networking (APPN), which accompanied the introduction of the company's Application System/400, has found one interested user in Continental Insurance, which uses APPN to connect IBM System/36s at some of its branch offices.

"When you insert another node on the network, it just tells the two adjacent nodes it's there, and away you go," said John Vande Creek, the insurance company's vice-president of systems architecture. "I am anticipating those capabilities for the AS/400; what would make it better is when we can do that with 370s as well."

In particular, APPN systems automatically maintain tables of the location of active nodes on the network, "so you don't have to take down the whole network every time you change a node, as you have to do with VTAM", Vande Creek said.

Now IBM has quietly announced more sophisticated networking functions for the AS/400 version of APPN.

Potential benefits — and limitations

Two important features offered on the AS/400 version of APPN did not appear in the customer letters but rather in a technological publication that IBM is just beginning to make generally available.

The first is the ability to update the tables of APPN nodes automatically each time a user, file or other resource is moved from one AS/400 to another.

"We're using APPN right now in a few isolated locations, but we intend to go to full implementation," across the company's installed base of about 2000 System/36s and a possible future AS/400 installation, he said.

Machine 'a full member of SNA family'

SYDNEY — In an overview of AS/400 connectivity, IBM Australia says the machine is a full member of the IBM family of SNA Products through its extensive support of the strategic communication architectures across traditional leased or switched lines, across IBM Token Ring networks, and X.25 networks.

It also provides connectivity to non-SNA systems and peripherals through its support for asynchronous communications and the X.25 protocol.

The AS/400 will satisfy the business needs of customers needing to have easy access to information wherever it is stored in the company network. AS/400 connectivity allows users of other systems to access the wealth of business applications available for the AS/400.

Some of the many connectivity options are where an AS/400 communicates with other AS/400s, S/36s, S/38s, a S/370 and IBM workstations.

Also, business applications are made possible through the use of IBM-provided service routines such as file transfer. These routines may be implemented using APPC support over one or more physical connections, such as an X.25 network or an IBM Token Ring Network.

There is a wide choice of options for the attachment of workstations to the AS/400: Twinaxial Workstation Controller; the IBM Token-Ring Network; the Ascii Workstation Controller on the models B10 and B20, all of which provide local attachment of displays and printers.

DATA COMMUNICATIONS

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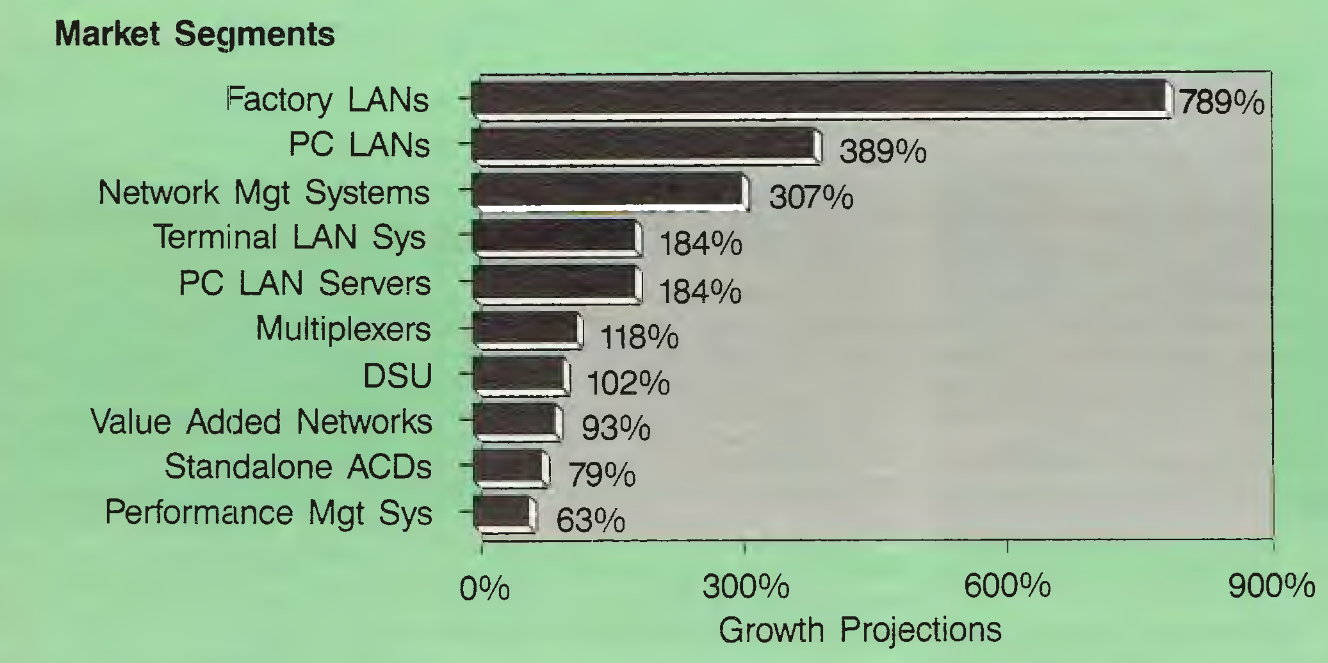
1986-1991



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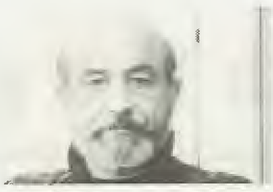
LECHT

Largest corporation gives birth to a giant of a baby

By Charles Lecht

TOKYO — At a June 29 meeting of the stockholders of Nippon Telegraph and Telephone Company (NTT), the world's largest corporation (by value of its shares), its long-planned divestiture of its data communications department became a reality.



Final approval was obtained at the meeting to divest the department and to use it to set up a new company called — NTT Data Communications.

On July 1, NTT Data began operations as a data processing services company, the largest in Japan, offering most of the traditional data processing services including systems analysis and programming, R&D, package sales, online computer services, facilities management and so on.

According to official figures released by NTT, NTT Data started its operations with a healthy crew of 6800 and estimated sales of 216 billion yen (about $US1.7 billion) for the first year. Capitalised at 10 billion yen ($US70,000,000), NTT Data is headquartered in Tokyo. Its leader before the divestiture, Shiro Fujita, became its president.

Inaugurated as a wholly owned subsidiary of NTT, the new company plans to list its own stock and significantly decrease its NTT investment percentage by 1992.

The formation of NTT Data cannot come as a surprise to anyone who follows the world telecommunications business. By paring the services side of its business to the minimum needed to keep its communications lines operating, any privatised communications company like NTT can expect to increase profits, albeit with decreased revenues.

Continued page 10

UNMA net manager rising to challenge IBM's Netview

By Elisabeth Horwitt

FRAMINGHAM, Mass — Ten months after its introduction, AT&T's Unified Network Management Architecture (UNMA) is showing up beside IBM's Netview on the shortlists of companies choosing their network management systems.

Said to be a predecessor of the still-embryonic Open Systems Interconnect (OSI) protocols, UNMA will allow users to migrate painlessly to the standard when it matures in a year or two, AT&T claims.

And although some key UNMA specifications are still missing, the same is true of Netview, according to Stan Welland, director of telecommunications at General Electric.

The two big shopping criteria for Welland are whether the system has the features his company needs now, and whether it is supported by GE's installed base of networking devices, he says.

GE plans to decide by the end of the year whether it will go with Netview, UNMA or a group of stand-alone network management systems. "We could let more aggressive users be the guinea pigs, but there is the risk of waiting too long," Welland said.

Black & Decker is evaluating Netview for its IBM installation in data processing and UNMA to manage AT&T multiplexers, modems, private branch exchanges and switches for the data communications side of the house. Basically a two-vendor shop, the company sees no advantage in trying to standardise around just one network management system, according to data communications manager William Thompson.

While OSI-based products are unlikely to dislodge Netview from IBM's installed base of Systems Network Architecture (SNA) users, IBM has no such hold on telecommunications vendors, some of which are finding Netview to be a difficult system to tie into. About 46 networking companies have announced products or intentions to support Netview while only 10 vendors support UNMA. On the other hand, UNMA has been around for less than a year, and Netview is almost two years old. And the OSI-based protocol has some definite attractions over Netview for third-party vendors.

"Digital Communications Associates, (DCA) supports Netview because like it or not, IBM has 40,000 SNA networks installed worldwide," said DCA product manager Martin Grubin. The company also supported UNMA and OSI because it believed OSI would eventually become the standard.

DCA liked OSI-based systems because the specifications were published and "pretty wide open", while IBM had refused to allow third-party vendors to work directly with Netview software "at the heart of the system", Grubin said.

Third-party devices must talk to Netview through IBM's Netview/PC interface. Although this arrangement might work for collecting statistics to be analysed later, it was too slow and cumbersome for monitoring a network in real time and responding instantly to a line or device failure, Grubin said.

"In contrast, the UNMA-OSI scheme allows various vendors' network management systems to act as peers, each controlling its own subsection of the network and exchanging information with others when necessary," said William Gilbert, AT&T's division manager of network management planning.

Like AT&T, IBM claimed its system would support either distributed or centralised management — with the proviso that more users were tending toward the centralised approach.

Netview functions can be distributed across multiple IBM 370s or 9370s, according to Robert Anderson, manager of telecommunications software product management at IBM.

IBM recognised that this was not the most efficient way to do things and should be providing LU6.2 peer-to-peer communications for Netview nodes based on IBM equipment, Anderson said.

But, Thompson said, if Netview lacks some distributed functionality, AT&T products that fall under the UNMA umbrella are still a long way from the unified, interactive system that the vendor portrays.

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NEC AUSTRALIA — A RAPID RESPONSE TO CONSUMERS' NEEDS

The communications industry is being increasingly consumer driven and NEC Australia prides itself on its rapid response to consumer needs, said the company's marketing manager Mr Geoff Reynolds.

Two excellent examples of this are NEC Australia's NEFAX 3EX, aimed to meet the requirements of small businesses and its new NECCEL 11E, launched this month, for those wanting a robust cellular phone that can cope with tough environments.

The NEFAX 3EX is a boon to small businesses because it does four jobs. It is a fax, phone, copier and answering machine and comes in one very compact desk top unit at a very affordable price.

This innovative system also helps cut costs because the purchaser only needs one telephone line.

Using a simple setting, the fax machine can be programmed automatically to take phone messages from incoming calls. Important business calls can be registered day and night, so it becomes an answering machine when you leave the office.

This cuts costs because it is not necessary to have a receptionist to cover the time when you're absent from the office.

Speed of transmission is another plus with the NEFAX 3EX taking just 15 seconds to transmit an A4 page.

The NEFAX 3EX also saves time and money because it has the ability to send documents at predetermined times using a special internal timing mechanism.

This month NEC launched the NECEL 11E — its third cellular phone on the market.

A response to the need for hardy and flexible car-mounted cellular phone, it also offers all the reliability and quality of NEC Australia's products.

The NECCEL 11E features a signal strength indicator that allows you to determine whether receiving power is sufficient for a telephone conversation.

This indicator also helps you find the best location for making a call.

An optional extra transportable unit will be available in September.

The NECCEL 11E has an excellent selection of features including a call-in absence indicator, call-time register and a quick-dial memory.

NEC

DATA COMMUNICATIONS

briefs

Banks computerise

Malaysian banks are putting big money into computerisation, expanding automated teller machine (ATM) networks, and investing in financial control, retailing and wholesale banking areas.

Malayan Banking known as **Maybank** plans to add 80 to 100 more ATMs nationwide this year to its 180 ATMs in mainland Malaysia. The bank's cardholder base, numbers more than 700,000.

The bank also plans to move into the East Malaysian states of Sabah and Sarawak in Borneo. The only other local bank to offer ATM services in East Malaysia is **Bank Bumiputra Malaysia Berhad,** which has two ATMs in Sarawak's capital, Kota Kinabalu, and one in Kuching.

Perwira Habib Bank Malaysia is investing more than $US39 million in computerisation during the next three years. This includes the installation of **NCR Corp's Bank Automation and Network Control Systems** (Bancs) with an NCR 9800 mainframe, which will be the first advanced, fully integrated retail and wholesale banking system intalled in the country.

The Bancs package, developed in collaboration with **Financial Network Services of Australia,** is the first total-solution software system developed specifically on the NCR 9800 series. It is claimed to allow for full statistical reporting, analysis, and online real-time service, and savings and current accounts, and ATMs applications have already been implemented.

'Error-free' data

Olivetti Australia is evaluating for international resale an Australian-developed communications product which is said to allow "error free" transmission of data over telephone lines. Developed by Australian company, **ABC Computers Pty Ltd,** of Sydney, the **Turbocomms** package is designed to allow remote support of personal computers in a network, an provides powerful facilities for management of asynchronous communications.

Four-lane road

The installation of eight NPX-25 multiplexers from **Scitec Communication Systems Limited** forms the basis of a statewide computer network recently established by the Tasmanian **Department of Main Roads** (DMR).

The new communications network is playing a vital role in the DMR's plan to extend computerisation into its district offices, enabling branch staff to access data from the head office in Hobart as well as storing their own information.

The DMR went to tender for the four channel multiplexers and according to technical officer Bill Palmer, the NPX-25s offered an economical alternative to installing extra lines.

Cellnet, the mobile telephone joint venture between **British Telecommunications** and **Securior Group**, has placed its first equipment order for its pan-European digital network with US-based electronics company **Motorola.**

The order is the first tranche in a more than $US680 million investment program spread over five years. The company gave no value for the initial order. Motorola has agreed to manufacture the infrastructure in the UK.

McDonnell Douglas looks for some market openings in the wake of deregulation

By David Beynon

SYDNEY — McDonnell Douglas Information Systems (MDIS) hopes the Federal government's deregulation of the value-added services (Vas) industry will provide the company with an increased market for its new highend open systems-based Tymnet packet-switching product.

The company also plans to use its enhanced proprietary nodal processors, the XL Engine range, to move into the small network market which was previously unsuited to the packet-switching technology.

Tymnet packet-switching products, built by MDIS's Network Systems Company (US), include the proprietary "Engine" family and the open systems-based Turbo Engine. The Turbo Engine is expected to ship here in the first half of 1989.

The man responsible for raising the profile of MDIS in the Australian communications industry and developing the local network systems unit is recently appointed national manager, network systems group, Neville Smith.

The highend opportunities are expected to emerge for MDIS and its Turbo Engine-based products in selling to suppliers of public networks, such as Mayne Nickless, banking and finance, and to large corporations, Smith said.

The de-regulatory processes instituted by the government in May will allow increased opportunity for overseas and domestic telecommunication suppliers to deliver Vas, and create opportunities for MDIS to sell large private networks, he said.

"However, the traditionally very large packet-switch customers are very few and far between, but now that our products can address the smaller networks the market has opened up dramatically," Smith said.

"The problem in Australia was that there was a high overhead cost of entry that was the network supervision function."

The Pico-Engine, the smallest and most recent addition to the proprietary Tymnet engine family, was developed after the ANZ Bank demanded a low access and switching product supporting all Tymnet features in a small package, he said. The bank also expected the product to have high reliability suitable for remote installations, and be supplied for a specific lowend price.

Smith recently enlisted the help of Kenneth Holcomb, director, consulting and support services, for MDC/Tymnet's (US) R&D organisation, the Network Systems Company, to meet Australian users, explain MDIS products and assess their needs.

Holcomb, who was involved in the development of the Turbo Engine and the latest XL range of proprietary engine products, said: "Through MDC's ongoing engine enhancement program, the network systems company has achieved significant performance improvement while lowering the board count and reducing the foot-print of hardware installation.

"Previously in the lowend eight-card mini engine nodal switchers, five slots were used up for the basic processor and only three cards were left for I/O. Now with a reduced component count and the combination of memory, memory control, and processing among other functions on to each board the mini engines can serve as supervisors."

Ken Holcomb . . . 'significant improvement'

Holcomb said there were three levels of business for MDIS's Tymnet products in the US: the 3000-node public network which has been Tymnet core business since the very early 1970s; subnetworks, subsets of the public network which look like private networks to users, and private networks.

It was a large US customer which suggested the product specification for the Turbo Engine, he said. The customer had a large number of backbone switchers, floor space was a problem, it needed to handle a lot of transit traffic and support large concentrations of X.25 users, but in smaller footprint.

"We kicked off the Turbo Engine design effort in December of 1986 and first brought the equipment up as nodes in mid-April 1987 in California," he said. "Sixty to 65 of the 187 people in the R&D group worked on the turbo engine program at different points in the development."

The group developed an open systems-based platform which is built on a multiprocessor-based architecture using Motorola 32-bit 68020-based general processors, 68010 I/O-based controllers and the system control program software, to control multiple processing across the Motorola VMEbus.

"The I/O firmware is very much based on the Pico-Engine's 68010-based I/O system," he said. "A major part of the software development was a re-implementation of the Tymnet Isis (Internally Switched Interface System) operating system."

The enhanced Isis operating system allowed the development group to use the same source code that runs on the proprietary engine family and support the Motorola instruction set, he said.

As a result the Turbo-Engine is completely compatible with the proprietary engine family, Holcomb said.

Largest corporation gives birth to a giant

From page 9

Thus we cannot but admire the leadership of NTT's outgoing president, Dr Shinto in, according to his own words, seeking to decrease ". . .the number of people dangling from (NTT's) telephone lines. . ." by spawning NTT Data.

NTT also cites other motivations for its divestiture of NTT Data. For example, it helps NTT to remove itself from possible charges that it is competing unfairly in the data processing services business. Such charges inevitably arise when businesses appear to be cross-subsidising one another to allow under-bidding in a competitive situation.

Having been removed from under the NTT umbrella, NTT Data will enjoy a new freedom in setting its prices to compete with other data processing services companies.

While a part of NTT, it had to abide by the myriad communications industry regulations set by the Japanese Ministry of Posts and Telecommunications (MPT) and conduct its business under the ever-watchful scrutiny of Japanese public interest groups bent on seeing MPT's wishes, and their own, carried out. Now NTT Data is released from such regulation and scrutiny.

While its reformation as a company no longer under NTT's umbrella may be good news for NTT data, it's got to be bad news for the remainder of Japan's business-hungry data processing services industry. True, everyone will now be on an equal footing in vying for business previously obtained by NTT data, without competition by virtue of its prior inhouse relationship to NTT.

But some feel that the opportunities this offers them are far outweighed by those they may lose when their largest competitor, no longer regulated nor scrutinised, is unleashed in their midst. They fear NTT Data's muscle because of its continued ownership by NTT and the highly competitive economies of scale it may offer solely because of its size.

Others say the requirement that NTT Data compete will lessen its threat no matter what its size. They point out that it lived too long (over 20 years) on NTT handouts.

Indeed, its size may be a drawback too. As a giant, it has a giant's appetite for cash. Obtaining this while learning to compete will not be easy and will undoubtedly place a strain on management.

Whatever the case, we can expect competition in Japan's data processing services industries to increase because of NTT Data's entry into the competitive fray.

According to a June 29 report in the Asahi Shinbun, NTT Data has a significant part of its business plan in place when it began independent operations on July 1, so it is by no means starting from scratch.

From inception, it operated almost 100 large-scale systems for government offices and financial institutions providing paid-for data processing services on a continuing contractual basis. It had almost 500 corporate users for one of its financial systems, Anser, and its private online data processing services users number in the thousands. Not bad as a starting position for a new company.

And whatever its current weaknesses, we cannot but expect that at least for a few years, NTT Data will continue to benefit from NTT's sponsorship and controlling interest in seeing NTT Data succeed.

On the evening of June 30, the new company held a "night before party" at Tokyo's National Sports Hall to "treasure", according to an NTT spokesman, "its staff's last night as NTT employees".

Many of the thousands who attended the gala event would become NTT Data employees the next day. In view of the emotional attachment many Japanese feel for their companies, I expect that all the beer that flowed may have been matched by the flow of parting tears as the strains of "Auld Lang Syne" were played to mark the evening's end.

- *Charles Lecht is an IDG News Service foreign correspondent based in Tokyo.*

DATA COMMUNICATIONS

Modem makers flee from the commodity market

IDG News Service

FRAMINGHAM, Mass — The emphasis in modem advertising these days is on differentiation. Ad copy stresses special capabilities such as data compression, data encryption, high-speed transmission, micro/mainframe interfaces, network management, synchronous dial sets and CCITT X.25 conversion.

There is a good reason for this shift in emphasis. Unadorned, modems are now commodity products. The chip sets are identical, and the prices hardly vary.

In an effort to distance themselves from the commodity label and price tag, modem vendors are pursuing one of two strategies — either using new technologies to build a better modem or leaving the basic technology untouched and developing add-on features that address special needs.

The best example of the first approach is the recent introduction of very high-speed (9.6K to 19.2K-bit/sec) dial-up modems.

The first high-speed solution to emerge was the asymmetrical modem, which simulates full-duplex communciations at high speeds.

The use of simulated full-duplex technology requires minimal alterations, and developers are able to offer these high-speed solutions at relatively low prices. However, the effectiveness of these devices is limited to applications such as large, one way file transfers and facsimile-type services.

Error-correction

A second high-speed solution introduced more recently requires the entire modem to be significantly redesigned. An advanced echo-cancellation feature and a forward error-correction technique called Trellis had to be developed to ensure full-speed communications in both directions simultaneously. The result of these developments was the CCITT V.32 modem standard.

Development of V.32 modems represents a good short-term strategy for vendors, but in the long term, these providers are going to face a conflict with their goal of differentiation.

Not surprisingly, vendors are directing more and more attention to the second strategy for avoiding the commodity market — adding value without altering basic technology.

One popular value-added feature is data compression. Target users for data compression devices include those who require greater output than 2400 bit/sec for certain applications but do not want to replace their installed network.

Currently, vendors can choose one of three data compression methods, each of which involves tying software and/or adjunct hardware into the modem package.. The first data compression method is the use of Level V of the Microcom Networking Protocol (MNP), which offers compression rates of more than 2-to-1 for 2400 and 9.6K bit/sec modems.

The second method is an alternative data compression technology, Commpressor, developed by Adaptive Computer Technologies. Commpressor offers higher levels of data compression in certain environments but does not have the wide-scale acceptance enjoyed by MNP.

A final data compression option is to develop a proprietary compression scheme. The most recent examples of this approach, which enables a vendor to lock in network users with compression requirements, are products from Hayes Microcomputer Products and Telcor Systems Corp.

Italy plans FDDI-based net to connect toll stations

By Laura DiDio

GENOA — Italy, which has one of the most extensive highway systems in Europe, will soon have one of the most sophisticated fibre-optic networks as well.

The Italian government, in conjunction with Autostrade SpA, which operates and maintains the highway system, has begun initial implementation of a Fibre Distributed Data Interface (FDDI)-based backbone network that will eventually link more than 300 toll stations on the country's 5000km highway system.

The $US35 million FDDI net will be implemented in three phases over the next three years. When completed, the net will carry daily toll receipts to a central site for processing, and it will transmit traffic and transit statistics, as well as weather updates and information on road conditions.

The 100M-bit/sec dual-fibre token-ring backbone network will link the toll stations to the Autostrade's headquarters here over fibre-optic cables that run along the highways. The Autostrade operates several IBM and Unisys mainframes that will process information collected at network nodes and passed to a central site.

Each toll station includes a mix of workstations linked to an Ethernet local-area network. Those Ethernets are then linked to the backbone FDDI network using FX8000 FDDI controllers from Fibronics International. Those controllers have an Ethernet port on one side and an FDDI port on the other.

"The nodes together compose the FDDI backbone; no one node on the token ring is superior or subordinate to another," explained Fibronics marketing director Hal Spurney.

Initially, the FDDI backbone will carry information on daily toll receipts for processing at headquarters, which will send traffic statistics and road conditions back to the toll stations, according to a spokesman for the Autostrade.

Fast entry of toll receipts will deter would-be embezzlers, the spokesman added. "Networking all the toll stations means that we will have exact daily totals at the central office, so it will be much easier to spot and trace any discrepancies."

Previously, employees at each local toll station have had to drive or mail the daily batch-processed statistics to the central office.

In addition, the Autostrade net will help relieve traffic congestion at the toll booths (Italy has more cars than any other country in Europe) by letting the government initiate an express lane service. For that service, drivers will buy a portable two-way radio box for a onetime cost of $50 to $75. They will simply insert their automated teller machine card into a slot in the radio box, which will transmit the driver's identification number to a device that will automatically trigger the tollgate.

Telecom's Flexnet to offer faster transmission speeds

By Noel Bennett

MELBOURNE — Telecommunications managers will be offered a new facility within Telecom's Digital Data service next year — Flexnet. Flexnet will offer customers faster transmission speeds and the ability to integrate voice at 64K-bits/sec and data and wideband services up to 1920K-bits/sec.

Further, the product will offer high reliability through its management facilities and customer network control, Telecom said. DDS, launched in 1982, was targeted at the corporate market which required high-quality data services based on digital technology and has since been enhanced with other facilities such as Austplex and Redirection.

Telecom is already exploring the potential of Flexnet with several of its key customers.

Key to its implementation is a $A1.9 million contract with J N Almgren for joint development of Almgren's highly successful AS100 digital switch.

The existing AS100 equipment was designed and manufactured in Australia with significant export potential being seen for the enhance version.

J N Almgren is a wholly-owned Australian company with wide and long experience in the supply of communications equipment to the Australian market.

Seven vendors form OSI consortium

IDG News Service

NEW YORK — Seven vendors have formed a consortium dedicated to providing users with Open Systems Interconnect (OSI)-based multivendor network management — at least two years before OSI-based network management products are expected to arrive.

Within 18 months, the consortium hopes to be able to demonstrate interoperability among different members' network management systems, using a subset of OSI protocols that can then be implemented in commercial products. This will satisfy users unwilling to wait four or five years for the OSI network management standard to mature and allow vendors to start implementing it in their products, forum members said.

The founding members of the OSI/Network Management Forum are AT&T, Amdahl Corp, Hewlett Packard, Northern Telecom, Telecom Canada, British Telecommunications plc, and STC plc Group.

The seven companies each agreed to use common OSI protocols to communicate with other network management systems while maintaining proprietary protocols to manage their own networking devices.

William Roelandts, general manager of HP's network systems group, said the intent is to protect user's installed bases while providing multivendor management in the interim period preceding a fully mature OSI.

Forum members hope to avoid implementing incompatible interpretations of the OSI standard by agreeing to use the same set of OSI protocols.

The consortium's distributed network management approach may be difficult to implement, since "the only way you can determine which networking component is at fault is to tap all network management databases", said David Passmore, a principal at Network Strategies consultants.

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DATA COMMUNICATIONS

Digital's strategic networking vision means planned migration path toward goal

By Keith Osborne

IN 1978 Digital Equipment Corporation made a strategic decision to concentrate on developing complete networked computing solutions to meet the needs of entire organisations. The foundation of our networking strategy was a structured, layered approach called Digital Network Architecture (DNA). Along with Decnet, its hardware and software implementations, DNA has enabled a logical and relatively simple migration path to new networking technologies.

In the 1980s, Digital is planning to change the focus of its business toward the functional integration of all information management technologies — including voice, data, video, and image — into comprehensive, enterprise-wide distributed information systems. In other words, to communicate anything to anywhere.

We call such a system an "Enterprise Network", with three basic properties:

First, information exchange is lateral as well as hierarchial. It embodies a peer-to-peer architecture based upon standards that extends to all subnetworks, both within the enterprise and to its customers and suppliers.

Second, an Enterprise Network supports multivendor hardware and software. It provides physical and logical links to diverse systems to integrate voice, data and imaging technologies into a single system, making all resources available at the desktop application level.

Standards

Third, it supports international standards such as X.25, X.400, and ISDN; as well as gateways to other proprietary or marketplace standards such as TCP/IP and SNA.

We divide our future Enterprise Networking strategy into four product areas, or building blocks, beginning with our current capabilities and projecting through the mid 1990s to integrated voice/data networks.

Our current products directly correspond to the requirements for connectivity, interoperability, distributed applications and manageability.

We provide Digital-to-Digital connectivity through Ethernet over industry-standard media, and through Decconnect, our structured-cable Ethernet wiring plan that supports voice, data and video transmission.

Connectivity to public and private data networks uses X.25 protocols. We offer specific interfaces to other vendors' equipment using advanced gateways and routers.

Interoperability of disparate systems is through gateways amd communications protocols facilitated by the multivendor capabilities of the Decnet architecture.

Distributed applications is addressed through Decnet System Services, a set of services that support large network environments and make networking easier. Through these services users interact with the network as they would with a standalone system.

Distributed File Service allows any computer or workstation from any vendor to access any file on any computer in the network as if the file were local. Distributed Queuing Service allows any computer or workstation to have transparent access to any print queue in the network. Distributed Naming Service allows common logical names to be used throughout the network.

Management and control capabilities are embedded in the Decnet architecture to provide a high level of network availability.

The second building block of Digital's networking strategy includes Decnet/OSI, the fifth generation of our networking technologies, and computer-integrated telephony (CIT), which allows the functional integration of the telephone and the terminal.

In 1985 Digital committed to support the seven-layer OSI model of the ISO, and embarked on a development program to provide OSI-compliant products.

Decnet/OSI Phase V is in full compliance with the OSI standards. Because Decnet/OSI Phase V so closely conforms to the OSI model, future lower- and higher-layer OSI standards will be readily incorporated into the appropriate layers of DNA.

Computer-integrated telephony (CIT) is the software platform for integrated voice and data applications, a stepping-stone to ISDN-type services.

CIT will provide such applications as online telephone directories, automatic dialling, computerised message desks, and new functions such as intelligent telemarketing and voice credit card authentication.

To provide functional integration of voice and data at the desk, a control link between the terminal application and the feature package at the telephone switch will be used. When a user issues a command to the system running the application, it will communicate with a feature package at the telephone switch, directing it, for example, to make a voice connection or transfer a call.

Freeing

Applications based on CIT will preserve investments in both computer and telecommunications systems, while freeing the organisation to incorporate new technologies as they emerge.

Once OSI and CIT capabilities are in place, the third building block in Digital's networking strategy will be ready: Jointly Managed Digital Enterprise Networks.

Digital is developing OSI-based network management solutions for telecommmunications companies. We are working with third-party applications vendors to integrate existing standalone, multivendor management support systems and databases into a universal work environment.

Our goal is to provide platforms to integrate switch management, transmission management and Enterprise Network administration. These platforms will provide an open architecture that will allow third parties to integrate a wide range of applications.

Digital's platforms and solutions will use X.25, X.400 and 802.3 protocols to provide new services, such as private virtual networks, toll-free number services, and services that require a line information database, such as credit card validation.

● *Keith Osborne is network marketing manager for DEC Australia.*

In the early 1990s the final building block in Digital's networking strategy, Integrated Digital Enterprise Networks, will be put into place.

Within the next decade integrated, high-speed voice and data communications capabilities will be business necessities. We intend to develop a set of integrated capabilities which will deliver value-added voice and data communications from the entry point of an organisation's building or campus directly to the desk. And we intend to provide high-speed integrated communications by using advanced, extended local area network/metropolitan area network (Elan/Man) technologies, with functional capabilities of 100km or more.

This is Digital's strategic networking vision. A vision is for the long term; it is a view of where you are going over a long period of time. Digital's strategic networking vision, however, involves a planned migration path towards the end goal.

The fulfilment of our vision will progressively provide essential network communications tools: for creating enterprise-wide electronic mail networks; for integration of voice and data applications; for electronic document interchange (EDI); and for developing value-added networks and distriubted transaction-processing applications across enterprises.

Which strategy to choose — centralised or distributed?

By Beverly Schwartz

SYDNEY — A major argument for the use of a distributed data strategy is that it reduces the requirements for wide area network communications. A properly designed and implemented distributed data strategy can lower communication costs, reduce response times and increase system availability.

However, communications technology is making substantial advances that could alter the economical and technical balance when deciding between centralised and distributed strategies.

In the communications field, the technology permits substantial increases in speed, thereby decreasing delays and reducing response times, while using existing transmission facilities. As an example, the standard two-wire connection into most subscribers' premises, which used to be limited to 1200 bits per second (bit/sec), can today carry up to 19,200 bit/sec and tomorrow will handle 144,000 bit/sec.

Data transmission is changing from analogue to digital technology.

The increasing use of fibre optics as a transmission medium is providing enormous increases in speed and capacity, from an initial implementation of channels capable of 20M-bit/sec through today's 565M-bit/sec to tomorrow's thousands of millions of bits per second.

● *Beverly Schwartz is an American database expert residing in Perth, who is conducting seminars on database and networking for Housley Communications.*

Advances within the switching mechanisms themselves, initially by the use of faster processors and later by a greater use of hardware (Cmos technology, VLSI and parallelism), will reduce the transit delays in packet switching nodes, and minimise connection times in packet and circuit switched systems.

Using alternative routing, duplicated switching and termination equipment, the availability and reliability of a network can exceed that of a fully duplicated host computer system.

The cost of computer hardware has been falling by about 50 per cent every two years, whereas the cost of software production, particularly at the systems level, has been increasing.

Given all the above factors, and the reasonable assumption that it is technically easier to develop and implement a centralised rather than a distributed data strategy, and that such a system could be providing very high physical security by separating a "tightly coupled" group of processors and associated peripherals into different buildings using fibre optics as channel connectors, why then should we consider a distributed data strategy?

First, although there is considerable publicity about all the commmunication advances, and although they are real and viable, it will take many years before they become available at all locations.

Second, there is the economic requirement and/or human desirability to continue using software that has been developed on multiple types of equipment. Most organisations have used microcomputers, often in a standalone mode, as a means of by-passing overloaded DP departments and providing friendly interfaces to the users.

Political or technical differences in organisations have often resulted in a mixture of computers, for example, mainframe for commercial work, minicomputer for scientific. Organisations have merged, bringing together multiple DP groups.

There is an increasing awareness that the data processed on all these facilities are part of a company resource, which must be managed as a single entity. Although it would be possible to centralise both the data and the processing software, it is often uneconomic and can generate considerable hostility within organisations.

Therefore, it is necessary to develop and implement a distributed data strategy. This strategy can range from a complex distributed database management system (DDBMS) to simple file transfers of selected portions of the company data between central and remote sites.

Third, there is the issue of data custodianship. All the data is a company resource but different portions are controlled (including the right of access) by different units within the organisation. This concept, often know as Laga (local autonomy, global access) will win the day in a large number of organisations.

TELECOMMUNICATIONS

CARRIER SERVICES, PABX, VOICE SYSTEMS, BYPASS

briefs

Singapore-US link

AT&T AND Singapore Telecom have announced the establishment of **INTERNATIONAL 800 SERVICE** between the United States and Singapore. This new service became available when Singapore Telecom inaugurated the world's first AT&T **5ESS** international digital gateway switching system.

International 800 provides the means for clients, potential clients or employees in both countries to place international toll-free telephone calls directly to customers' businesses. Companies in the US will be able to receive calls from Singapore without charge to the caller. Singapore Telecom will offer a similar service.

The service is being used successfully by companies to establish a presence in an international location, increase sales, expand market coverage, implement telemarketing programs and improve customer service.

Fees generally associated with the service include a one-time installation charge, monthly or quarterly rental fees and usage charges for incoming calls.

Price war over EDI

The trend toward automated trading, or electronic document interchange **(EDI),** will be a boon for users but only a modest money-makers for network and translation software vendors because of a price war, according to a US report by **Forrester Research.**

Based on interviews with 26 users, 11 of which had full-fledged EDI systems, the report provides a shapshot of EDI activity and trends in the Fortune 1000.

Based on the reactions, Forrester is estimating that only half of the Fortune 1000 transmits documents electronically with trading partners. But because 81 per cent of those request or require their suppliers to transmit via EDI, its use is expected to grow rapidly.

But Forrester said it expects a price war among third-party network providers, beginning with **McDonnell Douglas'** Aug. 1 elimination of gateway charges. Others will soon follow suit.

AT&T-GTE venture

GTE Corp and **AT&T** has proposed formation of a joint venture aimed at bringing AT&T-developed Integrated Services Digital Network capabilities to GTE's **GTD-5 EAX** digital central office switch.

The joint venture will also develop other new features for the switch, such as compatibility with **CCITT Signalling System 7** and the ability to support citywide Centrex service.

Under the proposal, the 5000 employees making up the central office switching division of GTE's Communications Systems, subsidiary would be reassigned to a new business unit. AT&T would then license its ISDN technology to that as yet unnamed company.

Initially, GTE, based here, will own 51 per cent of the joint venture. AT&T will gain 80 per cent ownership after five years and assume 100 per cent ownership after 15 years.

Both companies' spokesmen confirmed that AT&T will own all rights to the GTD-5 EAX by the year 2003.

'Accountability' is the driving force as Telecom gets ready for its shakeup

By Noel Bennett

MELBOURNE — Telecom Australia's reorganisation, coinciding with a "new look" Telecom New Zealand, has been driven by the "principle of accountability".

As the managing director, Mel Ward, said: "Greater accountability will equate to better service and profitability — and a more effective and profitable Telecom means a more secure future for all of us."

The reorganisation, mooted by Telecom well before the May Statement by the Federal government and which greatly liberalised the telecommunications scenario in Australia, is designed to better manage better Telecom's 90,000-odd employees.

Australian Telecommunications Services: A New Framework, released by the Federal government in May and indicating the way that telecommunications is to now operate in Australia, said the key factor in determining the future structure of each of the three carriers has been to establish clear accountability and responsibility links between government as regulator and as shareholder/owner.

The move, which will test fully Telecom's resolve against initial trade union opposition and inertia which must be endemic in an organisation of that size, was due to begin on July 1, but as Ward said: "The transformation will take time to complete and we cannot pretend that all details are yet in place."

As further explained by the chief general manager, Bob McKinnon: ". . . . clusters of special services are required by specific customer groups and it's the need to match services with requirements that has led to today's reorganisation."

The four new divisions are:

■ **Corporate Customer Division:** Responsible for meeting the specialised requirements of Telecom's top 250 customers, which are predominantly Australia's largest business organisations;

■ **Special Business Products Division:** In competition with Telecom's growing numbers of competitors, this division handles special business products and services — principally Value Added Services (Vas), mobile telecomunications services (MTS) and Directories. Boundaries correspond to Metropolitan Division Boundaries.

■ **Metropolitan Division:** Responsible for servicing both business and residential customers. Sydney and Melbourne will each have two divisions with others, located in Brisbane, Adelaide and Perth, each having one.

■ **Country division:** Meeting the needs of country customers and providing installation and maintenance to corporate and business customers in the country on behalf of the other divisions. Each State has one country region, apart from NSW which has two. In addition, Shared Resource Units have been established to ensure efficient provision of specialist services to the rest of the organisation.

Six of these units — property, warehousing and distribution, autoplant, workshops, training and accounting services — report to the executive general manager, while three — Telecom network engineering, research and Telecom information services — report to the managing director.

The Corporate Centre, or headquarters office, contains strategy, human resources, finance and control, secretarial, regulatory, internal audit, Telecom protective services and corporate communications units.

This reorganisation is the most radical Australian telecommunications has ever undergone.

As a major departure from past practice, Telecom's annual report will include assessments of the cost of meeting community service obligations and observing residual non-commercial controls which adversely affect profitability.

Space scientist blasts fibre optics for Pacific cable

IDG News Service

SINGAPORE — Protagonists of satellite communications stocked up with ammunition in the battle with fibre optics at the recent Communicasia telecommunications conference in Singapore.

While spokesmen for AT&T and Cable and Wireless described their plans to crisscross the Pacific with fibre optics, Bruno Miglio, a laboratory scientist with Hughes Aircraft, described the economic case against fibre optics for long distance communications.

"Despite all the partisan clamor for fibre optics, satellites generally have a clear economic advantage, at least for long-distance transoceanic routes," he said.

Miglio based his assertion on cost per circuit per year; a measure derived from the ratio of the annual investment required for either medium to the number of circuits required in each network link, in a given year.

He made calculations for the Pacific as a whole and for the Western Pacific subregion, which runs from Japan down to Australasia.

The model assumes 11 per cent annual growth in traffic along two way, duplex circuits.

The cost per circuit per year of a satellite is worked out by finding the ratio of annual revenue requirement and traffic flows.

The US-Japan link's cost per circuit year is $US88 million — the initial investment spread over 25 years and financed at 8.5 per cent per annum — divided by the total Pacific traffic. In 1995, this is expected to be 24,000 circuits.

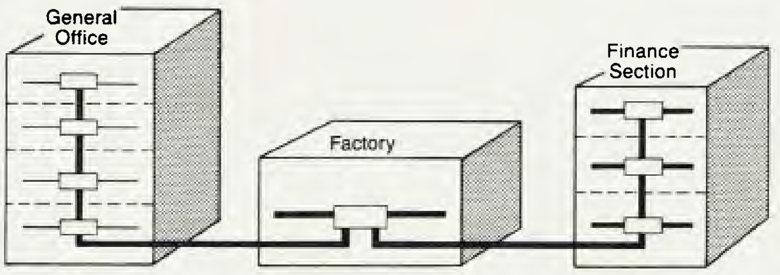
This gives a cost per circuit year of $US3665.

If a satellite is required to earn $US50

Continued page 14

IS YOUR BUILDING GETTING ENOUGH FIBRE?

Here's where you should be using Fibre Optic Cable as part of your local data distribution system



BETWEEN FLOORS
A small diameter, lightweight fibre optic cable can often replace a mass of conventional data cables saving you money and duct space.

BETWEEN BUILDINGS
Fibre optic cable can be used to transmit high speed data over long distances and is not susceptible to lightning, ground loops or induced voltages.

PROBLEM AREAS
Electromagnetic Interference (EMI) Radio Frequency Interference (RFI) and crosstalk, which can all cause high data error rates, have no effect on fibre optic cable.

SECURITY AREAS
Fibre optic cable does not radiate and is almost impossible to tap without detection.

Austral Data Networks can provide a wide range of data distribution systems based on the use of fibre optic cable. Systems are available for transmission of the following types of data:

IBM Token Ring
IBM 3270
IBM 5080
HYPERchannel

Ethernet (IEEE 802.3)
V35
RS 422/423
RS 232 (Sync/Async)

G.703 (2.048 Mb/s)
T1 (1.544 Mb/s)
MIL 188-114
IRIG A/B

Systems are also available for voice and video transmission over fibre optic cable.

Call Bob Jackson or Brian Salt on (02) 488 8799 to discuss potential applications of fibre optics in your data distribution system.

Inquiries from distributors, cable installers, and consultants are also welcome – we can help your business grow.

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Ph: (02) 488 8799 Fax: (02) 488 8542

19454-1

TELECOMMUNICATIONS

Deregulation will unveil an exciting area of challenge

By Trevor Housley and Graeme Ross

Trevor Housley is managing director of Housley Computer Communications Pty Ltd and is pictured with his wife, Jocelyn Housley, also a director. Graham Ross is southern region manager. The report is a transcript of a speech recently presented to Atug

MELBOURNE — Since the last major changes in the telecommunications industry in 1975 (when the old PMG department was split into two parts), we have seen some fascinating developments in all aspects of the industry.

The changes have been in customer premises equipment as well as in network services.

We have seen the emergence of:

A wide range of telephone handsets and associated facilities; two generations of PABXs; small business systems; value-added services; paging systems; voice mail; electronic mail; electronic data interchange; Teletext; private networks; voice networks; Lans; Mans; Wans; integration of voice and data; AXE exchanges/easy call; recorded information services; digital data networks; packet-switching networks, and of course the imminent ISDN.

And now the May economic statement has put yet another layer of challenges, expectations and opportunities in front of us.

We can look forward to innovative ideas for new and exciting telecommunications systems. Likewise, there are challenges in the areas of procurement, installation and maintenance of these potentially cost-saving and productivity-increasing tools.

In light of the document, Australian Telecommunications Services — a new framework — tabled by the Minister for Transport and Communications on May 25, 1988, we would like to outline some areas that affect all of us as a result of Small Business Systems Deregulation, due to take place on July 1, 1989.

The new policy will create an environment for grand new innovations to the benefit of the telecomunications user, mainly:

■ The ability to satisfy your business needs by choosing from the many new offerings that will become available;

■ The chance to take advantage of lower-cost solutions to the benefit of your overall business profitability;

■ The opportunity to chose a maintenance agreement that suits your needs.

With the deregulation of the small business system market will come a number of challenges.

Equipment

In the Minister's statement it was estimated the SBS equipment is worth about $A100m a year, while PABX equipment is worth about $A200m a year ex factory.

We can expect the outcome of deregulation to produce growth in the SBS market for the following reasons;

1. Business will shift from the expensive PABX networking option to more cost-effective key systems for small remote corporate offices;

2. A gradual growth in the SBS market due to the pricing and facilities that will become available as a result of new competitive product entries.

It can be expected that SBS growth will be an order of magnitude greater than PABX, tempered only by the current policies on local content and industry support.

One concern we do have is the ability of Austel, the new regulatory authority, to provide the necessary resources to allow timely compliance evaluation for the many market entrants.

From early next year we will see the emergence of many systems offering a vast array of options to both small and large business users.

Procurement

Care should be taken in the evaluation of the new systems. Many equipment variations, offering facility and pricing options, will be available to enhance the business operations.

While most small businesses do not have the expertise and/or understanding to perform a cost-benefit analysis of the offered products, it is to be hoped that the prudent vendor will ensure the adequacy of the offering.

The areas that require close scrutiny are: compatibility, ease of operation, and the matching of the particular system to solve the business needs of the user. These requirements should take into account the growth and future needs of the organisation.

The purchase decision should also take account of the installation support, and maintenance costs of the various options that are available.

Installation

Once the equipment has been chosen, the next dilemma is — who will instal the equipment: the supplier company, its contractor, or maybe Telecom? The cost variations in the early part of this life cycle are likely to be substantial.

Telecom will not be available to perform acceptance testing as in current Commander and PABX cutovers. Who is going to ensure that the machine is programmed to specification? Who will liaise with Telecom in the area of indial lines, cancellation of existing services, recorded information services, not to mention queueing facilities, music on hold, management facilities such as barred access and call recoding devices, and networking?

Maintenance

There are many areas to be aware of in the field of warranty and after-sales service. Reliability and spare parts need to be considered.

A clearly-defined contract to ensure timely restoration of service should be of paramount importance.

Once the contract has been specified, it will be necessary to define testing procedures, to establish whether faults are in the equipment or back in the network. This will be the responsibility of the purchaser.

The innovative manufacturer will build testing mechanisms into the system for ensuring expensive maintenance calls are avoided.

It will also be necessary to carry spares for testing and replacement purposes. The cost of those spares should have been evaluated in the initial purchase decision.

So far we have outlined a less than exhaustive list of areas where new market opportunities can create heartburn for the unwary — if they are not evaluated closely and negotiated to your satisfaction before purchase.

Graeme Ross

Space scientist blasts use of fibre optics in Pacific cable

From page 13

million during its 10-year life span, with the same number of duplex circuits as the Japan-US cable, the circuit cost would be $US2100.

If half the circuits were given over to the satellite and the rest to the cable, the satellite's circuit year cost would be $US4200 compared to $US7330 for cable, Miglio said.

On the shorter links of the Western Pacific subregion, according to him, satellites maintain an advantage in most routes with circuit year costs varying from 35 to 67 per cent of cable when half the traffic is given over to each technology.

"For very short runs with a high level of traffic, such as those between the Philippines and Hong Kong, cables do well," he said.

"But for all other routes, the shorter distances and lower investments of the cable runs are not sufficient to bring circuit cost below those of the satellite."

He estimated circuit year costs for 1995 for satellite links between Japan and Hong Kong as $US4080 compared with $US11,067 for cable.

Using the same model, the circuit year cost of a Philippines to Hong Kong cable in 1995 would be $US3360 compared with $US4400 for satellite.

By 1990, AT&T's Worldwide Intelligent Network will stretch over a route 4000km long running from Europe to Hong Kong through Japan, according to deputy director F P Fahney.

This year, a fibre-optic cable will be laid between California, Hawaii, Guam and Japan.

Costing $US600 million, it will cover 7200 nautical miles, and be capable of handling 40,000 simultaneous calls.

Cable and Wireless US's director of marketing, Barry Moul, may have inadvertently fanned the controversy by revealing that the Hong Kong-UK return link in its proposed fibre optic Global Digital Highway will, in fact, be a satellite link.

"While there are attractions in completing this round the world network by a cable, the viability of such a route is questionable at this time," he said.

Planner wins patent for ISDN application

IDG News Service

WAYNE, Pennsylvania — A New Jersey man has won a patent for what he claims may be the first ISDN application — a telephone answering system that promises to increase retail sales by automatically routing callers to local sales representatives.

Bernard Riskin of Lambertville, New Jersey, an information systems planner and founder of Applied Telematics Inc (ATI), received the patent recently for his Instalink system. ATI is a start-up based here that markets the Instalink system as a service to national retailers.

With Instalink, a customer's call to a retailer's 800 number is routed to a sales representative in the caller's area who sells the advertised product.

Instalink now works without Integrated Services Digital Network support. But according to Riskin, Instalink will be one of the first practical applications of the integrated voice/data technology.

Riskin said Instalink will make use of AT&T's ISDN Primary Rate Interface feature INformation FOrwarding-2 (INFO-2), which provides automatic number identification (ANI). Instalink will use the calling number data to determine where to route a customer's call.

The service will thus be made more efficient by eliminating the need for callers to enter their phone number when calling an advertised 800 number. INFO-2 is under controlled introduction in about 18 cities. Riskin expects Wayne to be among the 70 locations included in the next wave of introductory sites later this year.

Another feature ATI has on order from AT&T, dialled number identification service (DNIS), identifies the number being called and allows vendors to tailor phone numbers to products.

For example, if an ATI client such as Minolta's Business Equipment Division wants to sell copiers, it could put the number "(800) Copiers" in its advertisement. When a prospect calls that number, ANI will identify where the person is calling from, and DNIS will recognise the number as relating to Minolta copiers. The system will search the database for the Minolta copier retailer closest to the caller's home, relay the call to that retailer and deliver a recorded message saying the caller is interested in Minolta copiers.

LOCAL NETWORKING

PC AND TERMINAL-TO-HOST LANS, GATEWAYS, MICRO PRODUCTS

Winners and losers in the great market shakeout

By Mary Petrosky

WHILE consolidation has been the trend lately, the overall complexion of the local network market has changed significantly since the early 1980s, when the market began to take shape.

At that time, personal computers were catching on, and users were looking for a way to share expensive hard disk drives and laser printers.

Disk drive makers such as Corvus Systems and Davong Systems were early entrants in the market, giving users methods for partitioning disk drives. Corvus quickly established itself as a leader at the lowend of the market, while Nestar Systems garnered success at the highend.

Shuffled

In 1984, IBM lent credibility to local networking with the introduction of its PC Network. Microsoft provided a standard software foundation with the introduction of MS-Networks and MS-Dos 3.1. At that time, users shifted their focus from sharing devices to sharing information. The players were shuffled, with Novell emerging as a leader.

Although 1985, the so-called Year of the Lan, did not meet many vendors' expectations, local networks found their way into organisations in much the same way personal computers had — through the back door.

By 1986, barely seven per cent of personal computers in the US were connected to local-area networks, according to Brad Baldwin, industry analyst with Dataquest.

This year, that figure should rise to almost 19 per cent. Baldwin estimated that by 1992, nearly 60 per cent of all personal computers will be linked via local networks.

Today, Corvus and Nestar have lost their early market momentum. Corvus recently filed for protection from its creditors.

Although 3Com dominates in local network hardware consignments, Novell's NetWare software links 50 per cent of the networked personal computers in the US, according to Baldwin.

3Com and Apple Computer shared second place, with each company's software connecting 15 per cent of the current base of personal computers.

Shakeout

Banyan Systems just edges out IBM for third place with a 6.5 per cent market share, compared with IBM's six per cent.

As the 1990s approach, local net vendors and analysts alike predict a continued shakeout in the market. IBM, along with Microsoft and its licensees, hopes products based on Microsoft's OS/2 Lan Manager can capture some of the market Novell has dominated.

As for who will lead the market in the early 1990s, industry participants give IBM and Apple strong votes of confidence. 3Com and Novell are also mentioned as contenders. After that, the field is wide open.

● *Mary Petrosky is a bureau chief with sister US publication* Network World.

IBM dodges the flak with new offerings to backup NetView and Token-Ring

By Laura DiDio

FRAMINGHAM, Mass — IBM can be expected to roll out a graphics-driven operator console for NetView and an upgraded terminal controller when it introduces its 16M-bit/sec Token-Ring Network later this year.

Details of the NetView workstation and the controller — an IBM 3174 Cluster Controller enhanced to support the 16M-bit/sec Token-Ring — originally started to leak out of a consultant's briefing in Raleigh, North Carolina.

The operator console, called the Integrated Workstation (IWS), will adhere to IBM's Presentation Manager standards, a facility that is also part of IBM's Systems Application Architecture (SAA), sources said.

At the briefing IBM said the NetView workstation would offer a standard interface to all IBM network management functions.

IBM officials "hinted that the new IWS console may even provide an interface to network management functions on midrange systems and Lans, as well as host systems," according to James Herman, an independent consultant based in Cambridge, Mass.

"It wasn't clear in the briefing whether or not the graphics workstation has to be locally attached or whether it can be located anywhere on the network," Herman said.

The graphics-driven operator console, the consultants agreed, is a must for IBM, since other vendors are already marketing such products.

"IBM has caught a lot of flak for not having a graphics interface to its own network management capabilities. From a marketing standpoint, it makes NetView look like an old rather than a new technology," Herman said.

The graphics interface, which is said to use icons, is expected to make NetView easier to use by doing away with command-like orientation. It lets users see relationships between objects in the networks and their conditions, analysts reported.

IBM had to delay the introduction of a graphics interface to NetView until the Extended version of OS/2 was available, according to David Passmore, a principal at Network Strategies, an enduser consultant.

User-friendly

OS/2 Extended Edition incorporates Presentation Manager.

George Colony, president of Forrester Research, said that, in keeping with its desire to make products more user-friendly, IBM would scrap the present NetView command language, Clist, and replace it with Rex, one of the command languages used in IBM's VM operating system.

"A lot of users complained about Clist because it was so difficult to use. Rex, on the other hand, is easier, faster, more flexible and features a lot more commands," Colony said.

The second big networking announcement expected from IBM within a few months is a new network management repository. Repositories are a command database used to retain information on a network and its use.

According to Frank Dzubeck, president of Communications Network Architects, and Herman, the new repository will replace IBM's present repository, called InfoMan.

"InfoMan, is a fairly weak and rudimentary repository that lacks an integrated, well-designed configuration to drive network management applications," Herman said.

InfoMan, Herman explained, is not based on a mainline IBM database system, but the new repository will probably be based on DB2. "InfoMan doesn't provide a very complete set of applications," Herman added.

The repository will consist of a set of administrative network applications structured around a unified configuration database. "That's a big step forward for IBM; most other vendors are already designing their network management systems around a database," Herman observed.

Analysts also expect IBM to announce an enhanced 3174 controller, informally dubbed the Navigator, that will support the forthcoming 16M-bit/sec Token-Ring, just as the 3174 supports today's 4M-bit/sec version.

According to briefings by IBM, the Navigator will feature expanded main memory main disk memory to accommodate the faster local network.

The 512K-bytes of main memory in the 3174 will be expanded to 2M-bytes in the Navigator, and disk memory will be increased to 300M-bytes, up from 60M-bytes.

"From what I've been told, the so-called Navigator will be used as a Lan-to-Wan gateway to tie the 16M-bit/sec Token-Ring to IBM SNA backbone networks," said Passmore.

● *Laura DiDio writes for* Network World, *our US sister publication.*

Adlantes family unites Dos, Unix

MELBOURNE — Altos Australia has announced the release of Adlantes, the Advanced Local Area Network Telecommunications Systems, a family of hardware and software products that integrates Dos with Unix under one user interface.

Adlantes integrates Unix-based multiuser systems and MS-Dos based personal computers in a flexible, low-cost network, significantly raising the level of Unix connectivity within a system.

Acording to Gerard Fitzgibbon, marketing director of Altos Australia, the company's strategy has been to unite the environments of PCs, terminals and synchronous communications into a single, modular product family. "We have achieved this while incorporating industry standard technology and providing ease of access to Unix and Dos applications," he said.

Fitzgibbon said that the prime markets for Adlantes range from the small business, whose needs are for a multi-user system with business graphics, to the large department that has multiple requirements — for dumb terminals, PC sessions for those terminals, connections between PCs, and access to a central information system.

The heart of the Adlantes is the Advanced Communications Processor Attachment (ACPA). The ACPA is an intelligent communications/network processor providing Wan, Lan and terminal connectivity capabilities.

Open up your PS/2 Comms options

Digiboard's new 'Openender' intelligent comms boards really harness the processing power of the new PS/2 systems.

Their front end processing power offloads much of the I/O processing from the host and gives throughput enhancements of up to 400%.

Separate I/O mates let you configure the Openender to fit your environment perfectly. And, for your multi-user environments you can handle up to 32 channels in each PS/2 PC.

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LOCAL NETWORKING

DEC opens up access to IBM mainframes

NEW YORK — Digital Equipment Corp used the recent PC Expo here to introduce two software products that give users of MS-Dos and Ultrix systems running Decnet easier access to IBM mainframes.

The new Decnet/SNA MS-Dos 3270 Terminal Emulator and Decnet/SNA Ultrix 3270 Terminal Emulator let users access IBM mainframes without first logging on to a Vax/MS system, as had been previously required.

The products fitted into DEC's network application support strategy announced in January with Apple, said Joanne Correia, DEC's personal computer local-area network marketing manager.

The software packages, which were for MS-Dos-based personal computers and Ultrix-based Vaxes and Vaxstations, let Decnet users access Decnet/SNA Gateways directly from their native operating environments. The personal computers and terminals looked like IBM 3270 terminals to IBM hosts.

The software formatted users' screens to resemble IBM 3270 display stations. Users would need little extra training to use the emulation features, Correia said.

At the conclusion of a mainframe session — which can be conducted in IBM's primary operating system environments: MVS, VM and VSE/SP — a key sequence returned users to their native operating environments.

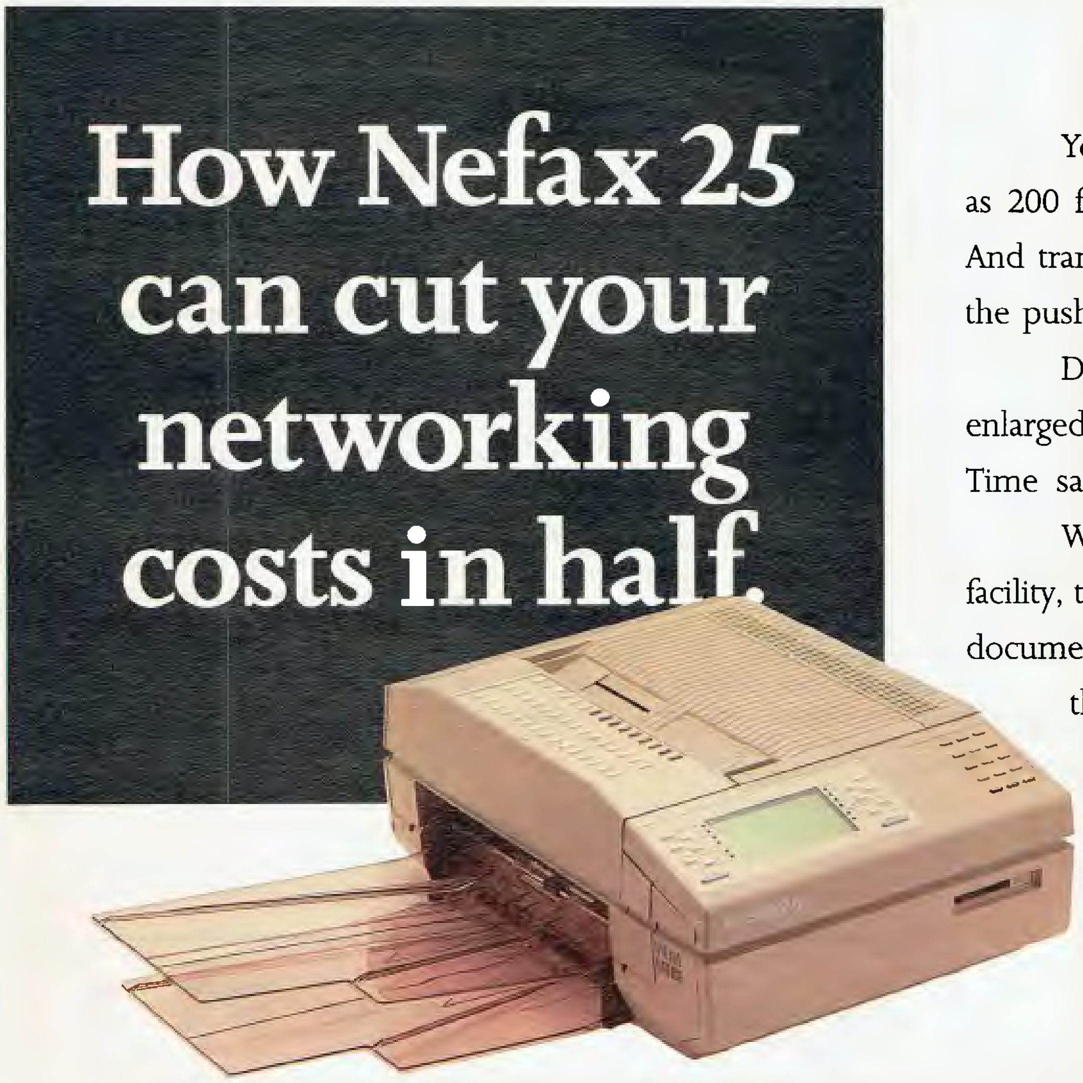
The new products brought DEC's network applications support service two steps closer to maturity, Correia said.

"Part of our network applications support strategy is to provide consistent services to diverse operating systems," she said. "These products are just backing up that strategy."

The strategy was aimed at allowing multiple operating systems, such as VMS, Ultrix, MS-Dos and OS/2, to share common applications, business communications and resources, Correia said.

DEC considered the new terminal emulation software necessary because users asked "why we only support VMS users in this environment and not Dos and Unix."

C&C Computers and Communications



You can pre-register as many as 200 frequently called numbers. And transmit up to 36 of these at the push of a single key.

Documents can even be enlarged as they are transmitted. Time saved. Money saved.

With the optional memory facility, the Nefax 25 can also store documents, and then broadcast them to up to 200 other pre-registered machines in your network, one after the other, by just one touch of one key. Time saved.

The Nefax 25 with memory can even automatically defer transmission until the cheapest telephone rates apply. Money saved.

Time saved is money saved. And with the new Nefax 25 Series extra-high-speed facsimile transceivers, you save a lot of time and a great deal of money.

For any company with a network of offices, the savings compound to a remarkable degree. It starts with pure speed of transmission. Quite simply, Nefax 25 is the fastest available facsimile transceiver.

Most machines transmit a standard A4 sheet in around 18 seconds. Nefax 25 does it in 9 seconds. For STD or ISD transmissions, you're halving your costs.

There are nine one-touch keys you can programme with a variety of specific tasks. For example, send documents with just one touch of one key, to the same place, at the same time, using the same copy quality and mode, over and over.

And you can save even more time and money by establishing a Nefax network for relay broadcasting. In this manner, if you need to send information to branch offices all over the United States, for example, you only have to transmit once from Australia. This transmission would be picked up in New York, say, and relayed from there at local rates to all the other offices. The cost and time savings are obvious.

For more information on how the Nefax 25 Series can cut your networking costs in half, call us. Melb. (03) 267 6355. Sydney (02) 436 8111. Bris. (07) 252 8800. Adel. (08) 373 2022. Perth (09) 325 2155. Canb. (062) 51 4611. Or (008) 033 352.

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Long wait over as AMD chipset gets ready for shipping

SUNNYVALE, California — Semiconductor manufacturer Advanced Micro Devices (AMD) will begin distributing its long-overdue Fibre Distributed Data Interface chipset this December, paving the way for vendors to produce FDDI-based network offerings in the next 12 to 18 months.

Computer and network vendors have eagerly awaited delivery of the AMD chipset — which is nearly a year late — so that they can begin production of FDDI-based gear. The AMD FDDI chipset, called Supernet, will be the basis for FDDI token-ring offerings from such computer vendors as IBM, Apollo Computer, and Sun Microsystems.

Delivery of the Supernet chipset has been delayed several times due to performance problems and the need to retool the chips to comply with modifications in the emerging Ansi standard, AMD explained.

The FDDI standard that the Ansi committee is working on defines a 100M-bit/sec fibre-optic local network. The network is composed of two rings of optical fibre that can interconnect a maximum of 500 nodes. The primary ring is used for data transmission, while the secondary ring can also be used for data transmission or as a backup ring in the event of a link or station failure.

Because AMD is the only semiconductor maker close to delivering an FDDI-based chipset, delays in its despatch date have postponed the introduction of FDDI products.

This means that endusers should have FDDI-based token-ring products by late 1989, according to vendors' estimates.

Microsoft pledges 'stream' of products

IDG News Service

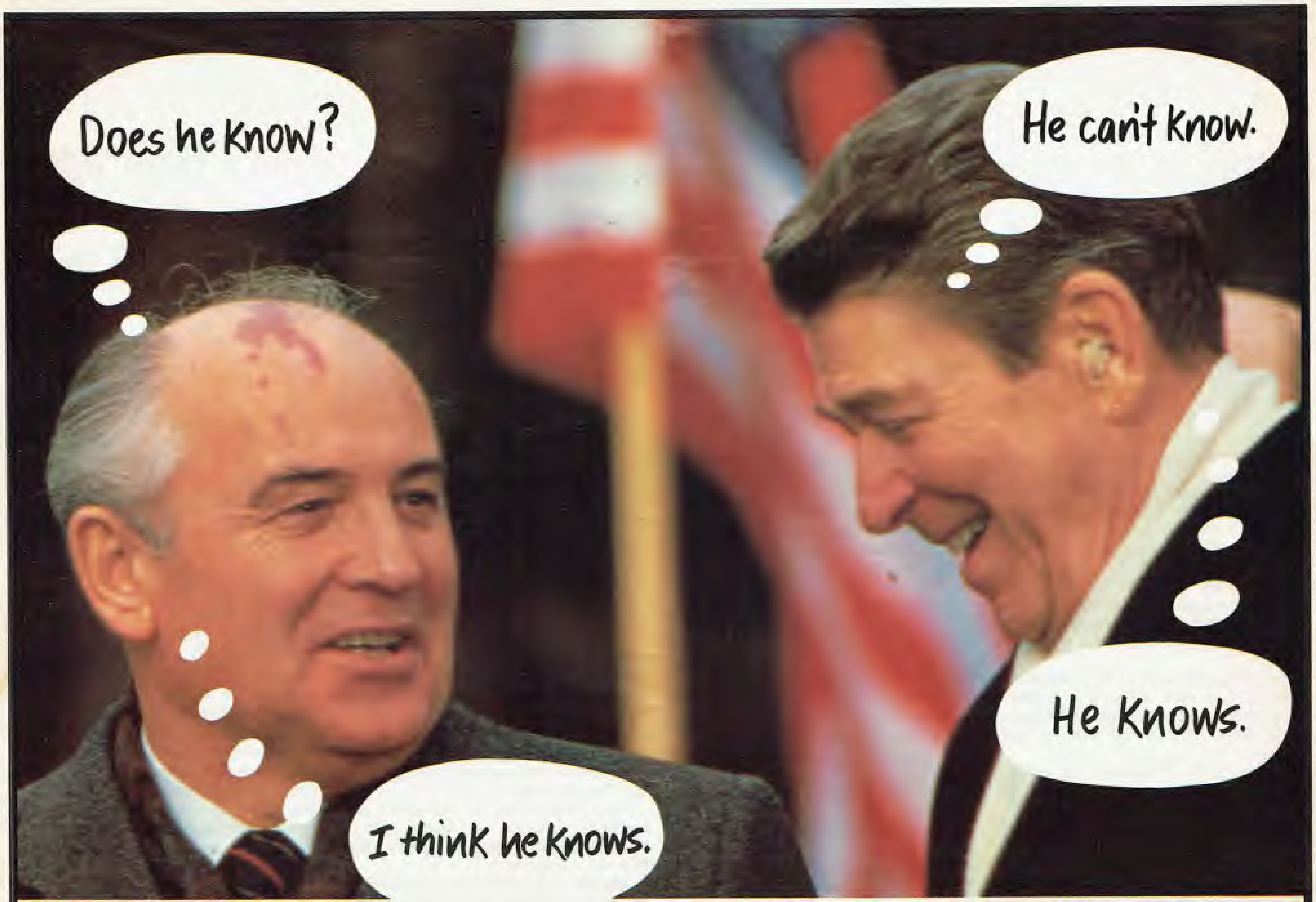
SAN FRANCISCO — In an interview with *Network World,* an official of Microsoft recently said users can expect to see a steady stream of products based on Lan Manager beginning in the US autumn.

In addition to 3Com, which has already announced a product, at least a half-dozen computer and networking vendors plan to introduce Lan Manager-based local net products before the year is out, according to Stephen Kanzler, a product manager in Microsoft's Network Business Unit.

These vendors include NCR, Ungermann-Bass (a subsidiary of Tandem Computers), Micom-Interlan, and Standard Microsystems. The UK's Torus Systems and Apricot Computer, as well as Italy's Ing C Olivetti & Co SpA may also roll out Lan Manager-based products in this period.

During the first half of 1989, another 20 suppliers, including minicomputer makers such as Hewlett-Packard and Finland-based Nokia Data, are likely to introduce such products, Kanzler said. And with an early version of SQL Server code already in the hands of select vendors and general availability of the developers' kit slated for next month, multi-user database applications designed for the Lan Manager environment should not be far behind.

To date, Microsoft has signed up 35 licensees for Lan Manager, the OS/2-based networking software it developed in conjunction with 3Com. In addition, Lan Manager has been distributed to about 5000 commercial and corporate developers. The company is working to sign up even more Lan Manager licensees among computer and networking companies in the US, Europe and the Far East, Kanzler said.


Does he know?
I think he knows.
He can't know.
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NE31

Novell's pledge to help Australian users

By Ira Johnsen and Maggie Macrae

ONE of the world's largest communications companies, Novell, has reassured Australian users of its commitment to their investment in networking products, and squashed once and for all the squabbling between its local distributors and OEMers by setting up an Australian subsidiary.

Indications that Novell may decide to withdraw its agreements with its exclusive Australian distributor, Datamatic (then Data Peripherals) and other local OEM companies, such as Impact Networks, surfaced in August last year when Datamatics and Impact Networks began to publicly brawl over which was the distributor and which could offer the best service.

Novell's direct representation here should ensure that such outbursts, which could endanger the company's reputation, do not occur again and that users will get the best possible service and support, with direct access to the company's US headquarters.

The announcement of the Australian subsidiary was made at Comdex by director of international sales, Novell (US), John Harris, who also revealed some of the company's new products.

Headed by Peter Stanford, the office, which has been operating as a division of the Hong Kong regional office since June, is expected to have a staff of six by the end of 1989.

Novell's recent upsurge of product announcements has encouraged the opening of the new office and emphasises the increasing presence of local and wide area networks in the computing industry.

Recently the company announced the support of its Netware operating system for the Macintosh environment that will allow the smooth integration of both Dos and Macintosh environment. More than 18 independent software developers, including Ashton-Tate, Lotus Development and WordPerfect, have already made commitments to provide compatible products to support Netware version 2.15 and Netware for the Macintosh.

Novell's Asia/Pacific regional director, Andrew Lai, said: "The development represents a major breakthrough in the way that people and businesses can work together in providing connectivity solutions."

The announcement meant that Macintosh, Dos and OS/2 workstations will be able to share common network management and security, common data files, and other Netware services such as Btrieve and Message Handling Service (MHS).

Also announced was Novell's Netware SQL, a Structured Query Language engine optimised for the Netware operating system. The new product is the latest addition to Novell's distributed computing platform.

"Novell believes that the distributed data management market will be divided into two segments — the frontend or user interface, and the backend engine," Lai said. "This means different users can each select the frontend appplications they are comfortable with and all access a common database."

In a related announcement, software developers Borland International and Lotus Development have pledged to support Netware SQL as a back end to their applications.

The initial release of Netware SQL will support the Dos and OS/2 environments and is expected to be available in the fourth quarter 1988.

Novell has already pledged its support of the newly announced version 4.0 of IBM and Microsoft's Dos. In an exclusive interview with *PC World*'s staff at Comdex, Novell's director of international sales, John Harris, said: "It's an intermediate step. Applications for OS/2 are still at least a year ahead and it will probably not be until 1990 that we will see many changes from the Dos platform."

John Harris . . . revealed new products

The company has also released a new hardware product: the 16-bit NT2000 twisted-pair Lan adapter, designed for IBM PCs and compatibles.

The new card supports both unshielded twisted-pair Ethernet and shielded twisted-pair IBM Type 1 and Type 6 cabling.

As part of Novell's strategy to connect to IBM's latest AS/400 minicomputer, the company has announced its plan to support the system with enhancements for Token Ring and 3270 information system attachments. This will enable local area networks to connect to the AS/400, the company said.

The ever-increasing networking industry has encouraged Novell to announce the general availability of its Netware Message Handling Service (MHS) which will allow for a sophisticated but transparent wide area network.

Pact extends TCP/IP functionality to entire 3B line

IDG News Service

MORRISTOWN, New Jersey — AT&T continued to buttress its support of dominant communications protocols for its 38 processor series through a recent alliance with Micom-Interlan that extends Transmission Control Protocol/Internet Protocol, or TCP/IP, functionality to the entire line.

Under the one-year, $US3.9 million pact, the local-area network designer will supply AT&T's Data Systems Group with a series of networking products — including intelligent Dos and Unix systems protocol processors — that add TCP/IP support to AT&T's 6300 microcomputer line.

"We now offer TCP/IP functionality from Dos and OS/2 all the way through our full 3B line," said Harry King, an AT&T spokesman.

The agreement with Micom follows a recent similar connectivity agreement with Orion Network Systems which provided AT&T with LU6.2 software for the 3B processor family.

"AT&T is following the same general trends as everyone else" by implementing de factor standards on its systems, said David Passmore, a principal at consulting firm Network Strategies. Users are demanding that systems support TCP/IP, LU6.2 and Open Systems Interconnect, and companies that lack the expertise to incorporate those protocols are going to third parties, he added.

The addition of such protocols "won't make users say, 'Gee, let's go out and buy AT&T micros'," but rather provides a "plus for people already interested" in the vendor's products, Passmore said.

The boards and processors for the Unix, Dos and OS/2 versions are slated to be available this month and should be priced around $US1500, King noted.

3 + Open to be first networking product launched for OS/2

By Patricia Keefe

SANTA CLARA, California — 3Com has detailed pricing, shipping and configuration data on its OS/2 network operating system, 3 + Open, which will make 3Com the first networking vendor to sell an OS/2 networking product.

The vendor also confirmed that 3 +, the current version of its software, will be phased out, most likely starting in late 1989. "A year from now, there will be no reason to purchase 3 + over 3 + Open," said Eric Benhamou, general manager of 3Com's software products division.

By then, the full suite of networking services available under 3 + today will have been ported to 3 + Open, he said.

Users will be able to integrate 3 + Open software in two classes — Entry level and Advanced System — with a choice of dedicated or non-dedicated file service.

3 + Open include Microsoft Corp's OS/2 Lan Manager and Microsoft and IBM's OS/2 for the file server. Both versions are slated for October.

The Advanced System configuration reportedly will enable users to take advantage of the coming generation of distributed applications being developed under OS/2 for a variety of environments, including IBM, Apple Computer, Digital Equipment Corp, Hewlett-Packard Co, AT&T's Unix and Transmission Control Protocol/Internet Protocol.

3 + Open Advanced System will support an unlimited number of users per server and multiple servers as well as Lan-to-Lan and Lan-to-host connectivity. It costs $A750.

A second version of Advanced System is modified for 3Com's dedicated Intel 80386-based 3S/400 file server and costs $A5540 per server. It includes server and workstation software, 3 + Open tape backup; 3 + Open Start, which is server booting for Dos workstations and 3Com's 3Station; and 3 + NetDos.

The Entry System, targeted at stand-alone local-area networks with up to five nodes, features low-cost and ease of installation, 3Com claimed. It costs $A1620.

The two systems share a number of features, such as concurrent Dos and OS/2 workstation support. Both also provide network security tools and administration.

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INDUSTRY

VENDOR STRATEGIES, MARKET TRENDS, BUSINESS NEWS

NetComm chief hits bureaucratic barriers

By Noel Bennett

SYDNEY — A "trail-blazing" and successful incursion into the highly competitive Japanese market, a most important deal with Apple computer and other international tie-ups — and yet Chris Howells is not entirely happy about certain aspects of legal and bureaucratic processes in Australia.

Howells, managing director of NetComm (Australia) Pty Ltd, recently painted a picture of an Australian-owned company which, beginning in 1982, ran for a loss for two or three years — with a bumper one in 1985 — and yet recorded $A12 million in sales in the year to June 30 last with an expected increase of 50 per cent in 1988-89.

But more importantly, NetComm, claimed to be the largest vendor in the modem market in Australia, "is profitable at the rate you would expect to see from any company operating in the technology areas on the international stage". Precise figures were not available — NetComm does not divulge gross margins nor profit/loss figures.

However, it would seem that these profits are substantial for the company has bought Avtek, the oldest and among the most successful of the Australian modem manufacturers.

Avtek manufactures lowend modems and importantly, adds "substantially" to NetComm's cost-efficient manufacture and marketing of commodity products.

On the deal in Japan, Howells said NetComm would be exporting thousands of 2400bits/sec modems to Nippon Telegraph and Telephones, one of the world's largest public communications utilities. The contract is worth more than $A4 million.

Instant credibility

NetComm is the first Australian contractor to NTT and while the deal would provide NetComm with "very useful" incremental income with a return on existing investment, the most interesting aspect of the deal was that "for the first time, an Australian developer has achieved a measure of real respect with a wide range of very large Japanese corporations, in the Japanese home market."

"Instant credibility," Howells said.

But NetComm paid for this with Howells saying it would be 12 months before the company got any money back.

On the deal with Apple, under which that company signed its Partnership for Development agreement with the Federal government earlier this year, Howells said although he could not supply specific details at this stage, he indicated that this work for Apple for the US domestic market could yield about $A12 million.

On other international developments, Howells said the company's New Zealand subsidiary was in the middle of negotiating supply on tenders to major corporate and government organisations.

Further, British Telecom had granted approval numbers for NetComm's products.

On the Continent, NetComm has a distributor in Holland and PTT approvals from government instrumentalities were now coming regularly and the company should be capable of effective pan-European marketing during 1989-90.

However, despite this progress overseas, Howells is not too happy about the hurdles he faced on the homefront.

He apparently offended a few Canberra bureaucrats by saying that while it was a good idea to promote exports by insisting on export generation by multinationals before they could do business with the Federal government, some government instrumentalities appeared at the same time to be actively favoring imported goods over proven, world-class technology products designed and manufactured in Australia.

Further, the company had taken legal action against Dataplex for what NetComm believed to be mis-representation of the source of products advertised and sold in Australia and more particularly, tendered to Telecom.

The case was dismissed with Dataplex, however, promising not to use the phrase "Made in Australia" in promoting goods it acknowledged were substantially sourced and designed overseas, Howells said.

However, the court made it clear that if an importer/assembler was happy to take the risk of legal challenge, terminology like "Built in Australia" or "An Australian Production" might be acceptable for such goods, Howells said.

He further claimed that Trade Practices Commission leaflets stated unequivocally that such a situation should not arise.

"I strongly suggest the law needs amendment," Howells said.

He noted that TrailBlazer 11 was a US product which was locally assembled by NetComm, but which included a full designed and manufactured power supply and DAA module.

Also, the US manufacturers, Telebit, added V.21 and V.22 at Netcomm's request, "demonstrating our real influence on the US designers".

Chris Howells . . . 'law needs amendment'

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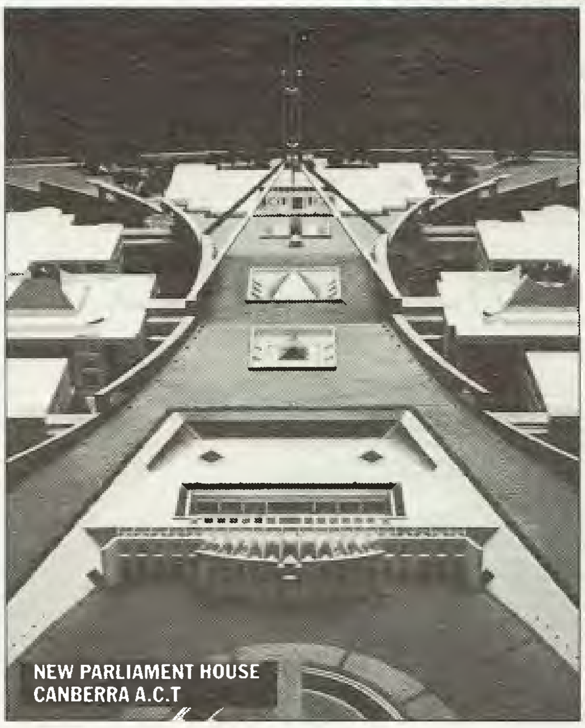

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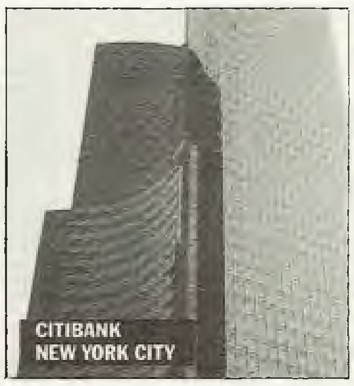

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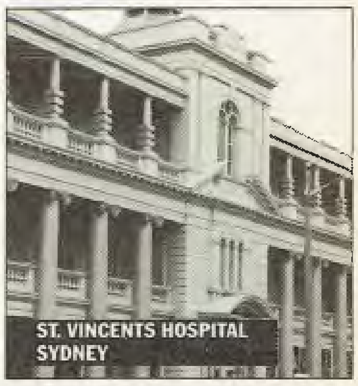

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ALLWHI 281

GPT claims business success

By Noel Bennett

LONDON — GEC Plessey Telecommunications (GPT) was now ranked fifth world wide in the digital public switching arena with a pre-eminent position in System X, the chairman and chief executive, Sir John Clark, told shareholders.

In the company's annual report, Clark said that in the US, Stromberg-Carlson had an established base with the independent telephone companies and was rapidly being recognised as the all-important third supplier to the regional Bell operating companies.

In business systems, the combination of Plessey's strengths in large digital switching systems with GEC's predominance in small PABXs made GPT the undisputed UK market leader with a sound platform for exports.

Plessey and GEC entered into a joint venture in the telecommunications field last year.

Clark said Plessey microprocessor-controlled payphones led the world and would give GPT not only an important growth business in its own right, but also an expanding customer base in international markets from which to gain entry for other products.

Transmission was also greatly strengthened by the joint venture with GEC adding modern microwave products to Plessey's own established position in optical fibre technology.

In the company's other core businesses, defence electronics and micro-electronics, Plessey had made a number of important acquisitions to enhance its growing strength in both these fields, with the emphasis being towards building a stronger position in the international marketplace.

Telecom changes loan strategy

MELBOURNE — Telecom Australia is introducing new borrowing methods. A regular program of stock issues will replace its previous, somewhat irregular, "as required" loans from institutions.

Telecom will borrow at least $A500 million from institutions in about eight regular tenders during 1988-89. The first was set for July 26.

This year Telecom aims to raise about $A1.5 billion to fund capital works. Of this, $A790 million will be new money and $A700 million refinancing.

Telecom said it would concentrate on improved liquidity and marketability with less "hot stocks" and volumes of at least $A500 million in each line.

Other major thrusts in 1988-89 will be:

- Ongoing encouragement for offshore investors to take Telecom stock.
- A more active secondary market book.
- Planned introduction of a controlled "stock lending facility" to enhance secondary market trading.
- A reduced, but still open, tender panel of no more than 20 participants.
- Continued development and improvement of the conversion of stock.
- Continued use of private placements where Telecom's flexibility in maturity and coupon is of value.

Telecom's treasurer, Cliff Davis, said: "Our main objective is to assist the major market participants, and most importantly the end investors, through increased flexibility in dealing with Telecom issues.

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1. What is your primary job function? (Please circle one only)
01 Director/Partner/General Manager
02 Co Secretary/Financial Controller/Accountant
03 Director/Manager of Office Admin
04 Director/Manager of MIS
05 Director/Manager of DP/ADP
06 Projects Manager
07 Systems Software Management/Development
08 Manager/supervisor operations
09 Systems analyst
10 Analyst/Programmers
11 Programmers
12 Operations Staff
13 Database administrators
14 Communications Manager
15 PC/Micro Managers
16 PC/Micro specialists
17 Computer Consultants
18 Communications Consultant
19 Computer Contractors
20 Consultants (other that Computer consultants)
21 Technical/Scientific/R&D
22 Computer Sales/Marketing
23 Sales/Marketing (other)
24 Librarian/Educator
25 Lawyer/Medicine
26 Student
27 Other

2. What is the primary business activity of your company/organisation? (Circle one only)
01 Manufacturer — Computer/DP Hardware/Peripherals
02 Manufacturer — all other excl. computers and electronics
03 DP Service bureau/software/planning/consulting
04 Public Utilities/Communications Systems/Transportation
05 Wholesale/Retail
06 Finance/Insurance/Banking
07 Mining/Construction/Oil and Refining
08 Business services (not DP)/Real Estate
09 Education/Medicine/Low
10 Government-Federal/State/Local
11 Printing/Publishing/other communication services
12 PR and Advertising
13 Communications consulting services
14 Manufacturer-communications systems equipment
15 Other

3. In your company, please indicate your primary functional involvement with communications.

	Data	Voice	Image
Planning/ Development			
Operations			
Management			

4. Which best describes your organisation's involvement with communications? (Please circle one only.)
A. Commercial or institutional enduser of communication systems and equipment (including all industries and businesses).
B. Government — Federal/State/local (including military).
C. Interconnect (including manufacturer, contractor, wholesaler or other vendor).
D. Communication service (including common carriers, telephone companies, utilities and broadcasting).
E. Systems integrators, systems and software houses, service bureaus and consultants.
F. Other (please specify).

5. What size is your organisation by employee numbers (circle one).
01 Very small (less than 50 employees)
02 Small (50-250)
03 Small/medium (250-500)
04 Medium (500-1000)
05 Medium/large (1000-5000)
06 Large (5000-10,000)
07 Very large (10,000 plus)

6. In which ways do you typically become involved in acquiring communications products (data, voice, and/or video) and services? Circle ALL that apply.
1 Recommend/specify
2. Identify/evaluate potential vendors
3. Approve the acquisition
4. None of the above

7. Check ALL that apply in columns A and B.
A. I am personally involved in the acquisition process (specification, selection, approval) for the following products and services:
B. These products and services are presently in use at this location:

A B *Product/Services*
Computers
01 ☐ ☐ Personal computers
02 ☐ ☐ Minis
03 ☐ ☐ Mainframes
Data Communications
04 ☐ ☐ Communications processors
05 ☐ ☐ Comm /networks software
06 ☐ ☐ Digital switching equipment
07 ☐ ☐ Facsimile
08 ☐ ☐ Modems
09 ☐ ☐ Multiplexers
10 ☐ ☐ Protocol converters
11 ☐ ☐ Network mgmt & control
12 ☐ ☐ Test equipment
13 ☐ ☐ 3270 controllers
Telecommunications
14. ☐ ☐ PABX
15. ☐ ☐ Commander/key systems
16. ☐ ☐ Integrated voice/data terminals

A B *Product/Services*
Transmission/Network Services Equipment
17. ☐ ☐ Microwave
18. ☐ ☐ Satellite earth stations
19. ☐ ☐ Local area networks
20. ☐ ☐ Wide area networks
21. ☐ ☐ Packet switching equipment
22. ☐ ☐ Fibre optic equipment
Communications Services
23. ☐ ☐ Packet switching services
24. ☐ ☐ Cellular mobile radio services
25. ☐ ☐ Electronic mail
26. ☐ ☐ Enhanced services
27. ☐ ☐ Paging systems

8. How much (estimate) does your company spend annually on communications?

$	0-50,000	50-250,000	250-500,000	500-1 mil	1-5 million	5 million +
capital						
ongoing						

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AT&T quarterly financial figures remain stable

IDG News Service

NEW YORK — Announcing its quarterly results for the period ending June 30, AT&T today reported that although revenue rose to $US8.759 billion from $US8.401 billion a year ago, net income decreased from last year's $US596 million to $US594 million. Per-share earnings remained level at 55 cents. Revenue for the first half of the year was $US17.108 billion, up from the $US16.522 billion for the comparable period last year.

Meanwhile, AT&T-Philips Telecommunications (APT), the four-year-old joint venture between the US telecommunications giant and the Dutch electronics multinational, reported that it cut annual losses to 20 million guilders ($US9.4 million) in 1987 from 70 million guilders ($US33 million) the previous year.

Revenue rose 20 per cent last year to 895 million guilders ($US422 million) from 743 million ($US350 million) in 1986. Officials, who previously said they expected the troubled firm to break even in 1987, now say they hope to end the flow of red ink in 1988. Earlier this year, AT&T increased its stake in the venture to 60 per cent, after paying an undisclosed sum to Philips.

The US group has repeatedly been frustrated in its efforts to penetrate European markets, largely due to local protectionist measures and its own inexperience in competing internationally, industry watchers said.

Voicecall raises $1.5 million as share deal

SYDNEY — Voicecall Limited has raised $1.5 million following the exercise of three million options by interests associated with directors of the company.

In a letter sent to share and optionholders Voicecall on July 20 announced that negotiations were at "an advanced stage" with a major overseas telecommunications group which would result in that company taking up a "substantial interest in Voicecall Limited by way of a new placement of shares at a price in excess of par value".

Voicecall is a major provider of communication and information services and equipment to Australian business.

The company has also developed technology that is being marketed internationally to both public and private telecommunications authorities.

IBM revenue up by six per cent in second quarter

ARMONK, New York — Tight cost controls helped IBM weather a lull in its product cycle to post solid, if unspectacular, growth in the second quarter, ended June 30.

IBM's operating income, not including a $US600 million charge for its recent workforce reduction, rose nine per cent over year-earlier levels in the quarter. Expenses increased less than six per cent, not including the charge.

The company reported that overall revenue was up six per cent to $US13.6 billion from $US12.8 billion in the second quarter of 1987. Net profits, with the costs of reducing the work force factored in, dropped to $US964 million, or $US1.63 per share, compared with $US1.18 billion, or $US1.95 per share, a year earlier.

Analysts said the results were encouraging in what was a buying pause period for mid-range and mainframe customers.

Donald Young of Sanford C Bernstein & Co said IBM's revenue was adversely affected by its product cycle, with mid-range users awaiting the recently announced Application System/400 and 3090 buyers awaiting the expected summer introduction of F-model upgrades. "IBM showed signs of improvement on very little revenue growth," he said.

One possible warning sign for IBM was a slowdown in the growth of software sales. The growth star of IBM's business segments for the past two years, software revenue, increased 15 per cent over year-earlier levels but only three per cent over first-quarter sales. Software revenue in the first quarter, in contrast, was up 22 per cent over the first quarter of 1987

3Com looks to 40 per cent market share boost

IDG News Service

SANTA CLARA, California — Network vendor 3Com Corp is gunning for a big growth spurt and has enacted at least one tough measure to show it means business.

Speaking to a gathering of financial analysts, 3Com chairman William Krause said the company is targeting a minimum of 40 per cent annual growth by fiscal 1991. Anything less will kill executive bonuses, he said.

"They are really serious about this — very bullish — and they really want to achieve more than 40 per cent growth," said Joseph Seidler, an analyst at Infoetics.

He added that Krause cited figures from Dataquest and International Data Corp, two market researchers, that estimate the average network industry growth at between 40 per cent and 45 per cent.

3Com, which is in the first quarter of its fiscal 1989, also expects to achieve a minimum of $US1.18 a share, or a 30 per cent growth in earnings over last year, for the next fiscal year.

At its most optimistic, 3Com sees potential for as much as a 50 per cent increase in earnings and a 60 per cent increase in growth, Seidler said. "They want to grow faster than the industry average in total."

Krause said the company will have to grow as fast as Sun Microsystems, Novell, and Digital Communications Associates.

3Com is also repeating its oft-stated objective to become the first billion-dollar communications company. The company wants to retain its leadership in Ethernet adapter sales while building a world-class major accounts sales force, which will target large organisations with multivendor systems. It also hopes to double the number of units of software sold during this fiscal year, which began on June 1.

Krause also outlined the company's targeted changes in revenue contributions from different areas. Major accounts will almost triple, spiralling from their current 26 per cent of 3Com's revenue to 60 per cent by fiscal year 1991. Reflecting that growing emphasis on major accounts, reseller sales will plunge from 57 per cent today to 30 per cent.

Krause also said revenue from workstations, servers and software will nearly double, rising from 26 per cent to 46 per cent. Transmission products such as adapter cards will go in the opposite direction, dropping from 40 per cent of 3Com's revenue to 25 per cent.

Addressing the current dynamic random-access memory chip shortage, Krause told analysts that 3Com is in the process of negotiating some long-term supplies for 256K chips and is looking to stabilise its margins.

UK vendor opens door

UK computer vendor ICL is moving into Taiwan.

It has appointed a sole distributor there, Genco International, which will report to ICL Hong Kong.

Genco will concentrate initially on ICL's range of retail point-of-sale (POS) equipment.

"As far as we're concerned, this is the first time that we've really been serious about the Taiwan market in terms of having somebody there who would represent us there," said Roger Beagley, ICL Hong Kong's marketing manager.

Genco's president, Edward Chuang, said there is great scope for sales of POS terminals in Taiwan.

According to Chuang, the Taipei market alone should absorb about 1000 terminals in the next two years.

Beagley concurred with Chuang about prospects in the Taiwan market.

Meanwhile, Taiwan's biggest and most successful software house, China Management Systems, has developed a menu-driven distributed industrial monitoring and control system designed for online realtime control needs.

Autocon, as the package is called, interfaces an IBM PC AT or compatible to a combination of programmable logic controllers for the tracing and tracking of multiple analogue or digital sensor points in a processing environment.

It provides high resolution color graphical functions with an EGA monitor, and is user configurable, enabling users to design customised systems within a short time.

Exports: Siemens' Japanese connection

MELBOURNE — After almost a decade of dogged export persistence, Siemens Australia has at last cracked the tough Japanese market for professioal quality electronic connectors. The pilot production batch was exported from Melbourne by air in late June.

The story began in the mid-1970s, when the Melbourne design team headed by Siemens' Harold Tammesild, came up with a world first.

They made a considerable improvement on the then emerging European standard for 75 ohm precision coaxial connectors.

These are the meticulously accurate, gold plated, highly reliable links used in their thousands when voice and data signals are transmitted between telephone exchanges, between cities, and between nations.

The resulting "crimp technology" was a world breakthrough enabling installation technicians to terminate more cables with more precision,and higher reliability in less time.

This breakthrough was quickly recognised by Telecom Australia.

Following this quick success on the Australian market, Siemens has now an export success worth nearly $A3m per year with New Zealand Telecom and hi-tech organisations.

And now the Japanese connection.

Siemens KK, the Tokyo-based Siemens subsidiary, recently ordered $A60,000 pilot batch, and is confident that larger full-size production offers will follow from its customers, the large Japanese communications manufacturers.

The 1/2 price network analyser with the full price features

The interactive, CRT based Netscope from Dataplex.

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REGION

UPDATE ON THE ASIAN/PACIFIC COUNTRIES

TAIWAN:

Expanding Acer aims to be a $US billion company soon

IDG News Service

THE rate of growth experienced by Taiwan's Acer Group, formerly known as the Multitech group, throughout its 12-year history is awesome.

The group has become a multinational, with subsidiaries in the US, Japan and West Germany.

In terms of corporate philosphy, the Acer group is far from being a traditional family-owned business, as is the case with many hightech corporations in Taiwan.

"We consider going multinational is the only way to survive for a Taiwan-based company in the future," said James Wu, special assistant to Stan Shih, Acer's president and Ceo.

"We think this is the right way to expand our market and to avert the increasing threat of protectionism."

Also, in January this year, Acer accepted investments from financial institutions for the first time.

It attracted a total of $US16 million of new stock placement from Chase Manhattan Bank; CitiCorp Ventures; Prudential Insurance; Hambrecht & Quist, other international banks and the China Development Corp — one of the largest private development investors in Taiwan.

The placement represented about 13 per cent of Multitech's total stick then.

At present, Acer is 70 per cent owned by 2700 of its 3800-strong workforce.

The group is also planning to go public in Taiwan, possibly by year end.

Decentralisation is the main trait of the group: with its main office in Taipei, each of the five subsidiaries is run by a chief operation officer who reports directly to Shih.

Wu said many of these COOs are local people and they enjoy a great degree of autonomy.

"Our philosophy is that good talented people mean good business," he said.

"And we want to develop each of our branches into a business entity like a citizen in that country.

"Local people know their market better than the men from the headquarters. They can thus contribute more if they're allowed to decide what products are best for the endusers in their respective environments.

"Many of our employees are themselves mini-bosses of the company, and, with their dedication, we will strive for the four important elements for success as a high-tech company: quality, corporate image, customer service and product price."

Business-wise, however, Acer is as diversified as many other conglomerates in Taiwan.

Its business include manufacturing and marketing of computers and computer-related products; trading in instruments and semiconductor materials; publishing of books and periodicals; consultation services; education and training; even venture investments in high technology.

Switching from a domestic Taiwanese company to a multinational organisation has given the group a slight edge over its competitors, as far as product manufacturing and marketing are concerned.

Acer's product families now include a full line of IBM PC and PS/2 compatibles; application-specific integrated circuit items designed for various industries; bilingual computer systems and terminals; communications products such as local-area network workstations and file servers; network cards and software packages; computer peripherals such as matrix and laser printers, and PC addon boards.

100 distributors

The merging with American minicomputer vendor Counterpoint last year has also enabled Acer to manufacture and market three Unix-based minicomputer systems: the Acer system 15, System 19 and System 21.

The minicomputer systems will be sold mainly through Counterpoint's worldwide distribution channels and value added resellers, Wu said.

Other than the minicomputers, Acer products are sold through its subsidiaries, and more than 100 distributors in 70 countries.

The group's total worldwide sales amounted to $US320 million in 1987, and 75 per cent of this turnover came from micro and supermicro computers and related products, Wu said.

"Acer plans to become a $US1 billion company in three years, and it's encouraging to learn that our worldwide sales this year will probably reach the half billion US dollar mark," he added.

Acer was among the earliest vendors to launch 32-bit 80386 PC compatible machines, and its present star product is the Acer 1100 PC compatible, which is available in 16MHz and 20MHz version.

The company was also one of those which launched an IBM PS/2 Model 30 clone in Taiwan.

"At the higher end, however, we're still waiting for the negotiations with IBM regarding the Micro Channel Architecture to be finalised," Wu said.

"We've certainly done our R&D and are ready to mass produce the Model 50 compatibles and higher models as soon as the air is cleared.

"The legal aspect affects not only Acer but all PS/2 compatible makers. As long as IBM treats everyone fairly in its licence agreement, I think we'll still have an edge over our competitors."

Late last year, an agreement with US computer and semiconductor manufacturer Texas Instruments further strengthened Acer's manufacturing prowess.

JAPAN:

EC talks on ISDN standards go smoothly

MEETINGS last month between Japan and the European Commission regarding internationalising Integrated Services Digital Network standards went well, according to Christopher Wilkinson, who heads the EC's division for Information Technology and Telecommunications.

The meetings between representatives of the EC and Japan's Ministry of Posts and Telecommunications were the first since the two parties agreed last November to set up a joint working group on telecommunications policies.

Wilkinson added that the deregulation and standards setting schedule was set "with a view of completing the telecommunications market integration in Europe by 1992 as part of the integration of the whole market".

He said that, on June 30, a public policy statement was adopted which included a working schedule for the European Economic Community to achieve by 1992, the year when Europe's markets are scheduled to be integrated.

HONG KONG:

Exodus worries Chinese govt

THE New China News Agency, China's official news agency and its principal agency in Hong Kong, is upgrading links between its Hong Kong office and its headquarters in Beijing, in what analysts and observers see as a bid by the Chinese authorities to enable faster reaction to events in Hong Kong because of the growing uncertainty over the 1997 issue.

Hong Kong will be handed over to China in 1997, and, as that date nears, the exodus of Hong Kong Chinese professionals and mid-to-high-ranking executives from the territory has speeded up.

It has reached such proportions that the Hong Kong government has, in a belated reaction, appointed a commission to look into the matter.

And it is reported to have made a behind the scenes request to the Canadian Commission in Hong Kong to slow down the acceptance of Hong Kong Chinese migrants.

Canada, Australia and the US are the three most favored countries for emigrants from Hong Kong.

Meanwhile, the Chinese government has appealed to Hong Kong Chinese not to flee.

NCNA is upgrading the links between its Hong Kong and Beijing offices with the signing of a contract with Datacraft Hong Kong for the supply of voice digitisers which will enable simultaneous telephone conversations and data transmissions to be carried on a single line.

This will replace the existing telex circuit linking the Hong Kong and Beijing offices.

NCNA is leasing an international data line from Cable and Wireless Hong Kong for the upgrade.

Installation of the leased line and the Datacraft Equipment is scheduled for completion by end August.

In addition to providing faster data transmission, the new equipment will give agency executives an open telephone line between the two offices around the clock, with no international direct dialling charges.

Once the link has been installed, NCNA is expected to extend it to its various offices throughout China.

Last month, engineers from NCNA attended a training course in Hong Kong on the theory, operation and maintenance of the voice digitiser to be installed.

INDIA:

Epic wins order for 1000-dish net

HONG KONG-based Equatorial Pacific International has won an order for a 1000-dish Vsat satellite network from the Indian Department of Telecommunications.

The contract, valued at $US6.5 million, is the second large deal won by the company in India this year. In February, the company announced the sale of a network of 160 Very Small Aperture Terminal earth stations to the National Informatics Centre.

The latest order was placed through Epic's joint venture, Indian Telephone Industries Equatorial Satcom, which manufactures the dishes in Bangalore.

In both cases, the earth stations, which are the product of the California-based Contel ASC subsidiary Equatorial Communications, will bounce data messages off the Insat Indian Ocean Intelsat satellite.

The DoT's earth stations will be used to build a remote areas business message network, bringing telex, fax and electronic mail to areas throughout the subcontinent where cable telecommunications are unreliable or non existent.

An 11m NEC master earth station antenna has been erected at a specially built network control centre in Sikandrabad near New Delhi. This is connected to DoT's Delhi switching centre by optical fibre to provide links outside the network.

The Vsats will be installed in phases. The first 100 will be installed by early 1989, according to DoT. The remaining 900 will be installed during the following 12 months.

The DoT plans to expand the network by 1000 terminals a year.

The National Information Centre's Nic-Net network is expected to expand to 5000 terminals, mainly linking government computer sites in State capitals and major cities, and providing data communications for Indian Railways.

The 1.8 and 1.2 metre dishes hook up to personal computers and transmit data at 1200 bit/sec. DoT will charge access fees of $US360/month for the network, and transmission charges of $US3.60/kilo-segment of data. (DoT calculates this as the equivalent of 32 A4 pages.)

NEW ZEALAND:

Adjusting tariffs a gradual process

AUCKLAND, New Zealand — Rebalancing of Telecom tariffs will not be a once-and-for-all exercise but is likely to be an adjustment over five years, Telecom's John Crook told the recent telecoms deregulation symposium in Wellington.

Nevertheless, the big instalment of tariff adjustment on the leased-line side, including Digital Data Service, is likely to come in one hit, and imminently, says tariff manager John Butt.

Longer-term rebalancing in voice links will have a minor effect on digital charges in the next few years after that, he says.

Crook produced graphs — purely indicative, he insisted — showing a progressive decrease in toll rates on major routes over five years, with a corresponding increase in the cost of shorter-distance connections, but still below the rate of inflation.

"Overall, our program to improve efficiency and reduce costs will enable us to create price reductions so the total bill for a given level of service will come down," he told the symposium. Leased circuit tariffs will undergo major restructuring, he confirms. There are likely to be significant increases for the local ends of analogue lines and substantial reductions for digital circuits.

A long-rumored reduction of the minimum call charge period from three minutes to one minute is now a virtual certainty, judging from the comments of Crook and others. This will be significant for analogue data users with relatively small amounts of data to transmit at a time.

FEATURE

TELETEX

AT THE CROSSROADS

The slow initial penetration of teletex into Australia's comunications repertoire may be overcome by Telecom's marketing efforts and new products. The real determinant, however, will be cost.

M K P A C D G T R
S W J R H

TELETEX, a relatively new public text interchange service, has been available from Telecom for almost two years, but has, to date, failed to gain even a moderate level of user acceptance. This is despite a large installed base of telex terminals, from which it is a natural progression, a concurrent explosion in the use of facsimile, and a widespread need for a public electronic messaging facility.

Conceived during the mid 1970s, teletex was first standardised by the CCITT in 1980, becoming the first communications methodology to be standardised for all seven layers of the ISO seven-layers model. A number of different recommendations was specified for teletex enabling it to be implemented within public packet switched and circuit-switched data networks as well as the switched telephone network.

In 1981, West Germany became the first country to offer a public teletex service. It has subsequently made significant inroads into the telex market and can boast an installed base of 30,000 terminals.

Teletex has also been well accepted in France and Scandinavia and is available in most other Western European countries, Canada, the US, and South Africa. However, in the UK, British Telecom has just withdrawn its teletex service.

Teletex, not to be confused with teletext, was designed to provide a universal means of transferring text, and other types of information, between different computer and word processing systems. Teletex was intended to be implemented as a public network, analogous to the telex network, but without many of the latter's limitations.

One of the main advantages of teletex over telex is the use of a character set containing 309 printable characters. Containing, of course, both upper and lower case letters, the 10 digits and all the remaining symbols that make up the 90-odd printable characters within International Alphabet No 5 (Ascii), the T.61 character set also contains a myriad of special symbols used by the various European alphabets.

But a larger character set is not the only advantage of teletex over telex. It transmits this data at 2400 bit/sec full duplex, compared to the snail's pace of 50 bit/sec half duplex for telex. As teletex uses circuit-switched connections (fixed bandwidth circuits are dedicated to the connection for the duration of the session) like telex, the greater the speed, the shorter the session, and the shorter the session, the lower the cost.

Telecom Australia has implemented teletex using a partition within the AXE computerised exchanges. This partition is in effect, a closed user group, which uses a separate numbering scheme and dedicated customer exchange lines, but shares the AXE's interexchange 2.048 M-bit/sec digital network. Thus, any customer within 40 km of an AXE exchange has access to teletex, and those further away can gain access using out-of-area service.

The two-wire line to the AXE exchange, which is essentially the same as a standard telephone line, connects to a Universal Teletex Controller, or UTC, at the customer's premise. This UTC contains a V.22bis modem, storage for documents being transmitted and received, and the processing for teletex line and customer computer interfaces.

The Teletex Pack 101 contains a single port UTC with 256K-bytes of Cmos Ram capable of storing about 120 A4 pages. The 801 has a UTC with 800K-bytes of magnetic bubble memory and eight ports for the customer's computers.

In addition to providing communication to the teletex network for this number of computers, the 801 enables files to be transferred between them. Both UTCs were designed by MBP of West Germany, but are now manufactured locally by STC.

Market research

In 1983, Telecom Australia researched the market's requirements for text communication. This survey found that there was a requirement for a high-integrity text communication service that offered a full character set, identified the sender and receiver to each other, and verified transmission. Most interestingly, the survey found a need to transfer text between different makes of PCs and word processing systems.

Teletex appeared to meet these requirements very nicely. It was announced the following year, and introduced in 1986, a year later than originally planned.

Teletex was seen to have three general areas of application; as a replacement for telex, as a means of general correspondence, and for special applications including binary file transfer. Although this last area was seen to provide the greatest potential market for teletex, it has only recently been implemented.

Replacement of telex with teletex requires interworking between the two services which was introduced during the middle of last year, opening up a potential market of 40,000 telex users throughout the country to teletex.

However, users converting telex services to teletex could realise its advantages only when transmitting to other teletex services. There is little incentive to replace a telex machine with a teletex connection to transmit to other telex machines at a higher cost, unless the computer system involved offers a more cost-effective teletex interface than telex interface.

Receiving transmissions on a teletex service from a telex machine requires the transmitter to know that the receiver in fact has a teletex service, and the number of this service. Only some telex services can return a redirection message to the transmitter, and telex numbers printed on letterheads for the past half-century are not easily forgotten.

Nevertheless, it is for the replacement of telex services that teletex is gaining some of its first applications. The Australian Overseas Information Service, a branch of the Department of Foreign Affairs and Trade that provides promotional material on Australia to Australian embassies for dissemination, is one such user.

Until recently, the information received by the AOIS offices in the State capital cities would be manually typed, manually telexed to Canberra, retyped into the Honeywell DPS6, transmitted from the DPS6 through a telex interface and the telex network to the Department of Foreign Affairs and Trade which would then send it overseas.

It was to avoid the rekeying and overcoming the limitations of telex, particularly the exclusive use of upper case letters, that led Andrew Wheatley, an analyst with the department, to investigate, and implement, teletex.

The information received by State AOIS offices is now entered into a PC, and transmitted, using teletex, to a central PC in Canberra for subsequent transfer to the DPS6. It will be transmitted directly to the DPS6 when Honeywell implements its teletex interface.

AOIS also uses teletex to transfer files between this IBM compatible PC and an Apple Macintosh used by the Publications unit, using the Lan facility within the eight-line 801 Teletex pack.

It should be noted that the implementation of teletex by AOIS is not part of an overall Federal government move towards teletex, but rather one department's solution to one of its own problems. Nevertheless, the Department of Foreign Affairs and Trade is seriously considering the replacement of its substantial telex network with teletex as the telex equipment ages and teletex transmission to an increasing number of overseas countries is introduced.

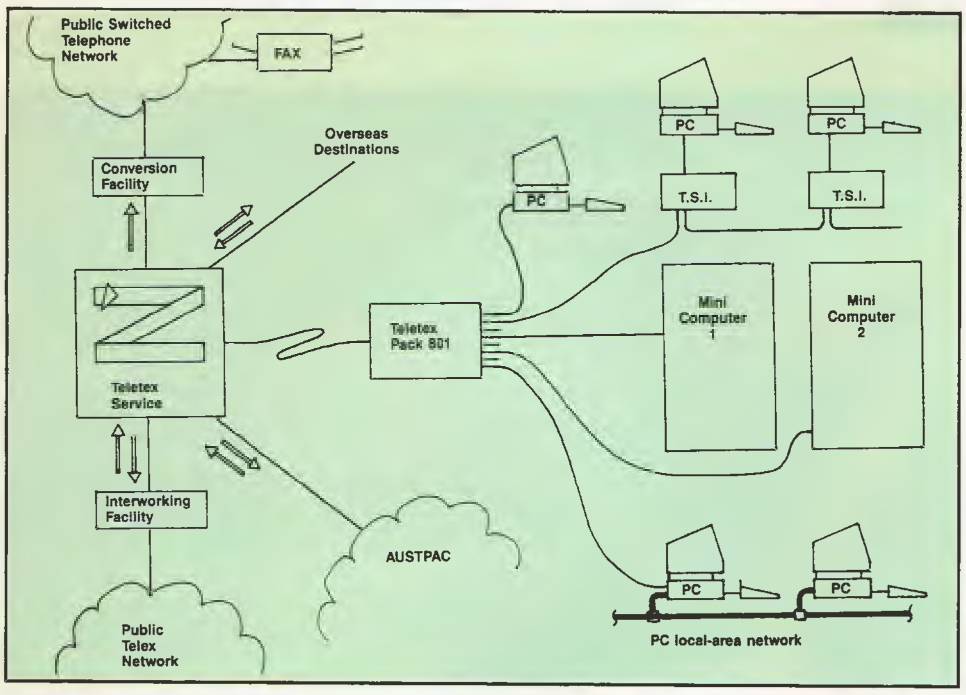
The establishment of a general purpose electronic mail system was the objective of the installation of a number of teletex services by pharmaceutical manufacturer Merck Sharp and Dohme. "With teletex, we are able to transmit electronic mail created with WordPerfect, and large Lotus spreadsheets between our IBM PC XTs," reported MSD's office technology coordinator, Kerri Simpson.

Simpson said they were satisfied with the teletex service and had experienced no significant problems. She went on to say that they have yet to transmit telexes from their teletex machines, but were considering it.

The Victorian Ambulance Directorate is experimenting with teletex for a similar function. Six of the 14 country ambulance control districts now have PCs connected to the teletex network, and together with similar PCs at the Ambulance Officers' Training Centre and the directorate, are used to transmit ambulance bookings to

(Continued page 24)

FEATURE



Schematic of Teletex system

(Continued from page 23)

other districts and statistics and spreadsheets to the directorate.

The directorate's communications manager, Terry Ryan, said that a number of features including its end-to-end transmission and data integrity led to it being selected over alternatives such as Keylink. Yet the service is not without criticism.

"The user interface is too 'Dos-like' and we are writing our own software to make it more user-friendly. We can't wait for staff to figure out how to send messages from a PC with teletex," he said.

While acknowledging Telecom's assistance with user interface software, Ryan added that printer support left a lot to be desired.

It was the binary file transfer application that led a major bank to establish what is probably the largest teletex network in Australia, apart from Telecom itself.

The bank, which requires senior management approval and several weeks' notice to be quoted, has PCs with a financial applications software package at a number of its offices. The database for this software is updated on the head office PC and transmitted once a week to these PCs using the teletex "broadcast" function, which is actually a series of sequential transmissions from the 801 Teletex Pack.

"The updating of the databases at these remote offices is fully automatic. The transmission takes place at night, and when the PC is switched on in the morning, it searches for a new database file in the UTC and if it finds one, reads it into its disk and deletes the old file," a spokesperson for the bank said. "This procedure requires absolutely no activity on the part of the enduser, which is one of the reasons it was selected over Telememo. The users don't even know this update has taken place."

For all its many advantages and examples such as these, however, teletex has failed to gain a significant degree of market penetration in Australia. Telecom has installed about 300 connections, about half of these to various departments within Telecom. Compared with 40,000 telex connections and 125,000 facsimile machines, this can hardly be considered earth-shattering.

The reasons for this are varied, but largely concerned with timing. Teletex was introduced when facsimile machines were being installed as fast as they could be unloaded from the freighters, and the use of telex was stagnating. Customers busy installing these fax machines were not overly interested in a technology considered to be an upgrade of their telex service.

Lacking many of the features of facsimile machines such as their ability to transmit graphic, typewritten and handwritten material, and their independence from computer supplier product offerings, or non-offerings, teletex had no chance of competing with facsimile.

Echoed comment

Second, most of the computer suppliers which dominate the local market are US controlled, and have been reluctant to implement what is primarily a pre-ISDN European technology in a country which has introduced the teletex network a few crucial years after those European countries in which teletex has been a success.

"Teletex is not our strategic direction," was how Robert Gasser of Hewlett-Packard put it, a comment echoed by a number of other computer suppliers. As the attached table illustrates, supplier support for teletex has been less than overwhelming, and few vendor-supplied interfaces have been sold.

One reason often quoted by suppliers for their non-support of teletex was their planned support for the forthcoming message-handling system (MHS) based upon the X.400 set of standards.

David Sanday, Prime's director of communications marketing said, "Prime is firmly committed to mainstream international standards, for example X.400 Ftam." ICL's network business unit manager, Mike Banham, was more emphatic: "We do not see teletex as a strategic system. It has not gained a great deal of support in most countries and will be superseded by X.400 systems."

Neil Every of Remington pointed out that the T.61 character set did not have adequate formatting codes. "Documents received from teletex are effectively 'final form' or not editable. Teletex is not of much interest to our customers until it is supported by a viable ODA standard. The PC file transfer is quite useful, however," he said.

His comments are supported by events in Canada where previously increasing use of Telecom Canada's teletex network peaked and has declined following the introduction of X.400.

The third major reason why teletex has failed to make waves in the communications market it that Telecom has not

Teletex uncrosses the communications wires.

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TELETEX IS THE ANSWER

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With Teletex working for you, documents can be transferred within city, across Australia or around the world – with an absolute minimum of fuss.

Access to Teletex is available throughout Australia, and is supported internationally in some 25 countries by over 30,000 subscribers.

Teletex in Australia is provided via special Telecom Teletex Packs that work from existing office equipment certified for Teletex, or via dedicated Teletex terminals. Teletex can also be added to office automation systems, a local area network, or can be integrated into any modern PABX system that can be segmented.

TELETEX IS FEATURE-PACKED

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- Allows a choice of terminal manufacturers.
- Automatic message storage until retrieved.
- Error-free transmission speed of 2400 bps.
- On-line 24 hours a day.
- Interfaces with the Telex network world-wide.
- Re-editing feature minimises costly re-keying.

TYPICAL TELETEX APPLICATIONS

Teletex is so versatile, it can be of immense value in many different applications. For example, in transferring reports and statements between branches, or for distributing draft business and legal documents. Teletex is ideal for travel agencies and reservations offices. It also provides an effective means of linking shipping, airline or transport companies with customs agents and freight-forwarders. Other applications for Teletex include desktop publishing and electronic data interchange.

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Telecom Australia

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marketed it. Peter Gamble, Telecom's marketing manager of text services, explained that Telecom had been waiting for a number of technical issues to be cleared up and for local suppliers to develop interworking software.

"To date, the approach has been low-key. We've been demonstrating teletex at such venues as trade shows where we've been able to interest a select group of users," he went on to say.

While Telecom has been waiting for the suppliers, one supplier is, in fact, waiting for Telecom. Data General's Susanne Pringle exlpained: "We believe Telecom would have to inject a great deal of marketing effort, funds and determination into Teletex if they truly want it to work in this country. If it could be proved to DG that there was a true market for the product, we would re-investigate announcing our products in Australia."

But as previously mentioned, most suppliers do not perceive the market for teletex in Australia to be that large. "If the market votes for teletex with its feet, we'll increase our support for it. We're under tremendous pressure to support X.400," were the comments of Wang Computer's Kevin Slatter.

Telecom will shortly begin a teletex awareness campaign. According to Gamble, it expects an additional 1000 subscribers during the next 12 months, and these are expected to be for a variety of applications with a wide variety of users. No one group will be targeted.

While most of the mainframe and minicomputer manufacturers are pessimistic about the future of teletex in Australia, they are also buffered by the fact that they are unlikely to lose sales by not offering teletex support. But the situation with some of the independent software companies is different.

For example, Co-cam has sold several of its Teletex 3000 packages which provide teletex interfaces for HP3000s. Computer Network System's Tex Ace Window Plus provides a teletex interface for NCR Tower and Unisys 5000 minicomputers and some non-Dos PCs.

Offcom's Tos application program which runs on MS-Dos PCs, can interface to a Lan or minicomputer, providing it with telex and facsimile transmission. Teletex transmission from Tos will shortly be introduced. Tos is being marketed by Honeywell and is also used to provide such interfaces on Prime computers.

One company which has specifically targeted the IBM market is Aspect Computing, a company which provides software and consulting services for IBM midrange system users. The Aspectex/36 product provides a teletex interface for the IBM System/36. Teletex support for the System/38 and AS400 is under development.

"The public is used to telex and facsimile, and Telecom must do a lot of marketing for the advantages of teletex to be understood" was Aspect Computing product manager Tina Maniacco's comment about the market's slow acceptance of teletex. "As with fax when first introduced, public acceptance will take time."

Perhaps the most successful minicomputer teletex software package is Datasolve's Mail Manager which provides telex, teletex and facsimile for Wang VS and OIS computers. According to Richard Sobczak of Datasolve, more than 30 Mail Manager packages have been sold with teletex support.

Teletex was originally conceived as a means of transmitting text between different vendors' word processing systems. But between that time and the introduction of the public teletex service in Australia, the explosive growth in the use of personal computers has affected the implementation of teletex by the user community.

STC involved

Alcatel-STC has in many ways led the introduction of teletex into Australia. STC has worked on the implementation of teletex within the AXE exchanges which STC shares the manufacturing of with LM Ericsson, manufactures the universal teletex controller (UTC), and has developed interworking software for a number of PC-based WP packages.

These include Wordstar, Microsoft Word versions 2 and 3, Multimate, Multimate Advantage, Multimate Advantage 2, WordPerfect, Final Form text, Revisable Form Text, and Displaywrite 3 and 4, all of which are sold by Telecom as part of the Teletex Pack.

STC also sells MacTeletex, teletex software for Ctos and Btos environments, and Teletex Net, which allows a non-dedicated PC on a Lan to function as a teletex server.

Aimed directly at users replacing telex with teletex services, Siemens has had its T4200 dedicated teletex terminal available in Australia since the introduction of the teletex service. While thousands have been sold in West Germany, with a retail price of just under $A10,000, very few have been sold here to date as users have preferred to add teletex interfaces to their existing PCs and minicomputers.

With all of these teletex interface products available, any user with the need to do so is able to obtain an interface to the teletex network. So the question of why teletex has not taken off becomes a question of why users have been slow to adopt it.

Returning to Telecom's text transmission market research carried out in 1983, three basic opportunities were seen for teletex: as a replacement for telex, as a means of general correspondence, and for special applications, including binary file transfer.

Current tariffs strongly discourage the replacement of telex with teletex, and facsimile won the general correspondence methodology race before it began. Thus, these special applications remain the key to the future of teletex.

To address these special applications, Telecom made support for binary file

(Continued page 26)

TELECOM TELETEX TARIFFS

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SERVICE CHARGES	**up to 40km**	**exceeding 40km**
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• Teletex Pack Installations All Versions	150	150
• Out of Area Trunking	—	200
MONTHLY RENTAL		
• Per Line	50	100
• Per Teletex Pack 101	80	80
• Per Teletex Pack 801-1	393	393
• Per Teletex Pack 801-8	470	470

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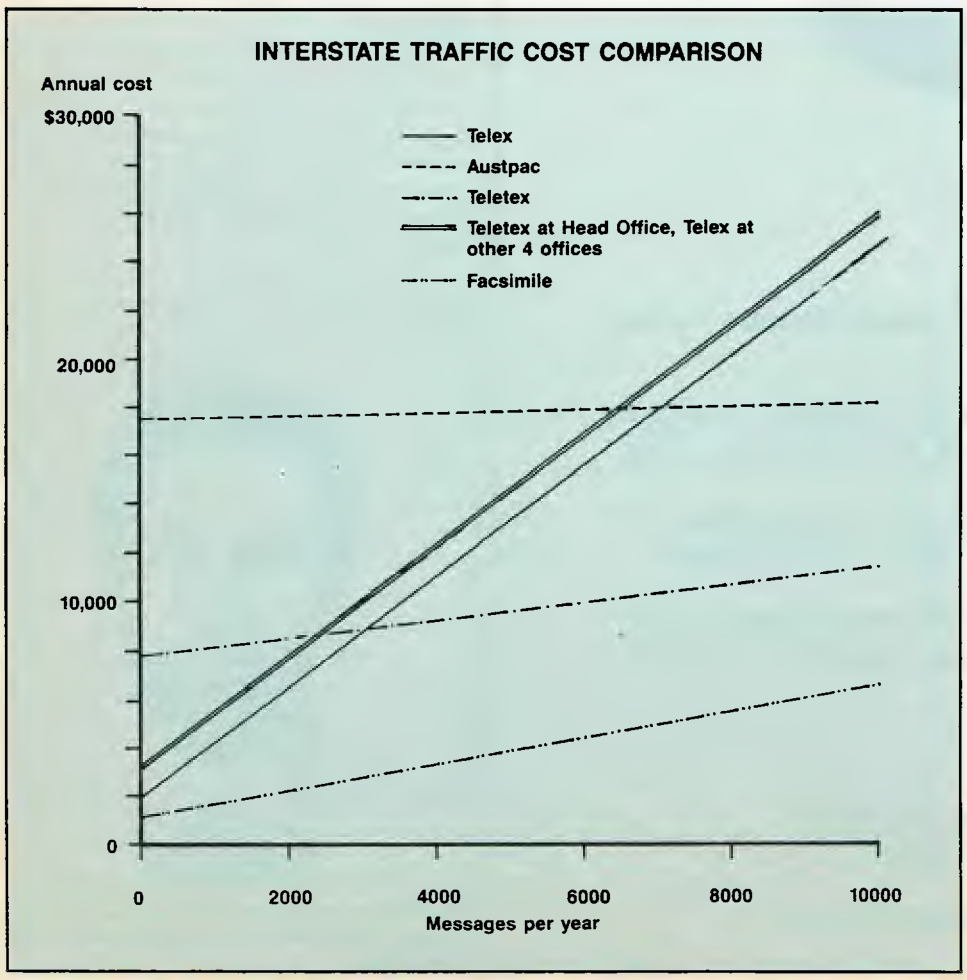
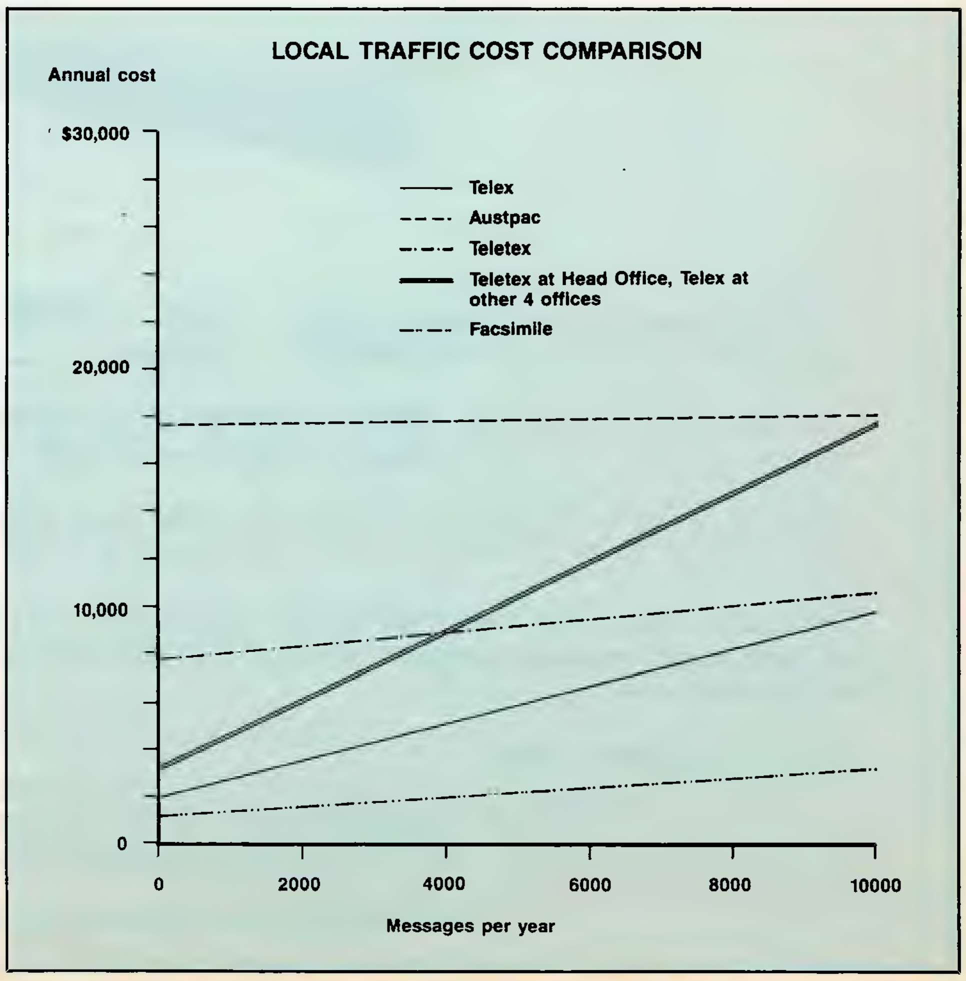
— Over 165km	2 secs for 2.0 cents (3)	3 secs for 2.0 cents
TELETEX to TELEX INTERNETWORKING		
• Connect Time (at 50 bit/sec)		
— INTRASTATE	30 secs for 15 cents	42 secs for 15 cents
— INTERSTATE	18 secs for 15 cents	24 secs for 15 cents

NOTES ON COST COMPARISONS

1. The costs reflect line rentals and traffic charges from Telecom only. The cost of teletex, telex, and Austpac interfaces on the computers, facsimile machines, and appropriate software would be additional.
2. All traffic is sent during the peak hours, and tariffed accordingly.
3. Each message is a 2400 character A4 page.
4. Interstate traffic is from a Sydney head office to Melbourne, Brisbane, Adelaide and Perth in proportion to their populations.
5. The teletex to telex example is based on a teletex service in Sydney, and telex services in the other four cities. All other examples are based on five services of the one type.
6. Connection charges are not included.





COMPUTER SUPPLIER SUPPORT FOR TELETEX

SUPPLIER	COMPUTERS WITH TELETEX SUPPORT	HOW MANY SOLD	PRIVATE ELECTRONIC MAIL FACILITY
Control Data	none at present		Mail/VE
Data General	all 32 bit MV systems can support teletex, but not yet released in Australia	0	CEO based Xodiac, gateways to several other vendors' proprietary electronic mail facilities
Datapoint	7000, 8000 models	0	Vista-mail
Fujitsu	no teletex support yet developed		a mainframe based electronic mail will soon be released
Hewlett Packard	HP3000	n/a*	HPDesk
Honeywell Bull	DPS 6 interfacing to a PC with Multimate or Wordstar	0	OAS, will not compete with teletex
IBM	all mainframes and minicomputers, Series 1 requires third party card	n/a*	Profs, Disoss
ICL	none, and no plans for teletex support		ICLMAIL
NCR	none, but teletex support for all general purpose systems to be released next 12 months		electronic mail available on several systems
Prime	none, and no plans for teletex support		OAS has electronic mail facility
Remington	NBI/Remington Systems 64, 64es 66, and 66es	n/a*	an electronic mail using Unix uucp
Unisys	B20 series, teletex support via X.25 planned, but cannot be used in Australia	n/a*	Napamail
Wang	VS series	6-10	Wangoffice

** Not available*

(Continued from page 25)

transfer a requirement for Telecom approval. It was a gamble — teletex interface software used overseas required considerable modification before it could be used in Australia, and at least one supplier has decided not to introduce teletex interface software available overseas into the Australian market.

In the words of Offcom director Norman Young: "This was a tremendous slug to manufacturers. A requirement that binary file transfer support be provided, say, a year later, would have enabled much more teletex software to be introduced into Australia."

Despite the difficulties arising from this requirement, it is in line with Telecom's strategy. Peter Adams stressed Telecom's view of teletex as a means of providing computer to computer text transmission, in contrast to British Telecom's marketing of teletex as "super telex".

"Australia is leading the world in the development of teletex interworking software and the transmission of text between PCs through a public teletex network," he went on to say.

Similar sentiments were expressed by Ross Fowler, STC's Teletex product manager: "Teletex growth will not be dramatic, but it will be used for selected market applications. Teletex will be used for high-integrity business-to-business transmission while Keylink will be used for person-to-person correspondence."

Enhancements

A number of enhancements to the originally released teletex service underscore Telecom's support for it. As mentioned, telex interworking was introduced in mid-1987, and Austpac interworking and access to teletex networks in France, Denmark, Norway, Sweden, West Germany, Belgium, Luxemberg, Holland and Italy, was introduced in June.

Telecom has also released Teletex Lan which allows a PC on a Lan to act as a teletex server and Teletex Crypt, while STC has released Teletex Plus, which automates a number of teletex functions.

Teletex Crypt uses a recipient's public key to scramble the transmission using the DES algorithm, and uses the recipient's private key, contained on a smart card, to descramble it. Not only does this encrypt the message, it verifies the sender and receiver.

Finally, Telecom is experimenting with a conversion facility to enable transmission from teletex interfaces to facsimile machines.

With an increasing number of suppliers supporting teletex, these new facilities being added, and active marketing of the service by Telecom, use of the teletex network will undoubtedly increase. Just how much it will increase will depend upon a number of factors, not the least of which will be tariffs.

As with so many other products and services in this industry, it often boils down to the cost.

● *Stephen Coates is account manager, communications services, Total Assets Protection.*

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ANALYSIS

Realising the value of Lans with bridges

By Frank O'Brien

ETHERNET and the associated IEEE standard 802.3 local-area networks are enjoying increasing popularity among PC users owing to the continuing release of enhanced products from both hardware and software suppliers. Some notable developments have been:

- Ethernet controller cards for PCs from Novell, 3Com and others;
- Thinwire coaxial distribution for small workstation clusters;
- Twisted 2 pair Ethernet for ease of cabling;
- Fibre-optic Ethernet for spanning greater distances;
- Support for upper OSI layer networking protocols and defacto standards such as TCP/IP and NetBios;
- Low cost bridges for partitioning networks.

This latter development is significant because bridges provide the network designer with the freedom to divide Lans into discrete segments, or allow discrete networks to be joined, thus providing inter-Lan operation without restricting traffic in either Lan.

Fundamentals

For a better understanding of how bridges work, it is first worth reviewing some of the fundamentals of the Ethernet or IEEE 802.3 specifications.

Both Ethernet and the IEEE 802.3 networks use the CSMA CD (Carrier Sense Multiple Access with Collision Detection) method of media access control and employ a logical bus topology.

Although data is transmitted at 10M-bit/sec, throughput in a network with a large number of connected devices is considerably less than 10M-bit/sec owing to allowances for data frame overheads, interframe gap and the statistical occurence of collisions.

Throughput depends on the type of traffic and is generally considered to peak at between 3 and 4M-bit/sec.

CSMA/CD also places a constraint on the distance spanned by a network. To enable detection of collisions, the smallest frame must propagate throughout the entire network and effectively back to the transmitting station before the end of the frame. Because the minimum frame length is 64 bytes or 512 bits, this limits the round trip propagation delay to 51.2 micro seconds at the transmission rate of 10M-bit/sec.

This equates to a maximum terminal to terminal distance of 2.8km when considering the reference configuration defined in the IEEE 802.3 specification which includes two separate repeaters and a fibre-optic segment of 1km.

Bridges can be used to alleviate some of these limitations and enhance the overall performance of networks in at least four areas:

1. Improving throughput and transmit delay performance of the network.
2. Isolating faults;
3. Exceeding network limitations, such as maximum distance and number of devices supported;
4. Mixing media.

Bridges

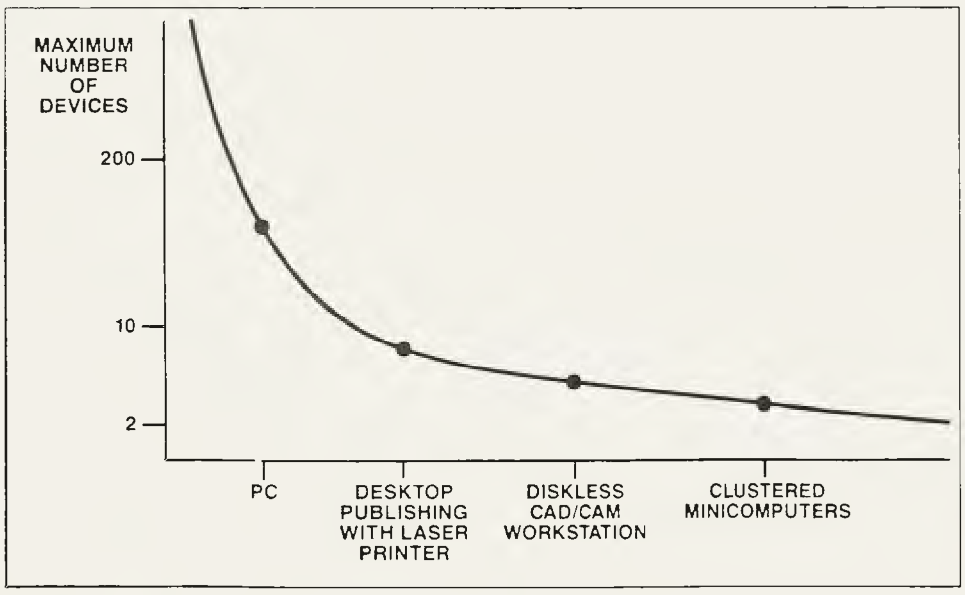
Bridges function on the media access control (MAC) sublayer of the OSI model, which is the lower half of the data link layer. This is why they are often referred to as Mac layer bridges. Bridges are protocol independent and transparent. A bridge will forward any and all upperlayer protocols like Decnet, XNS, TCP/IP and ISO.

A bridge isolates traffic between segments of two networks by examining the destination addresses of the transmitted frames placed on the networks by individual devices.

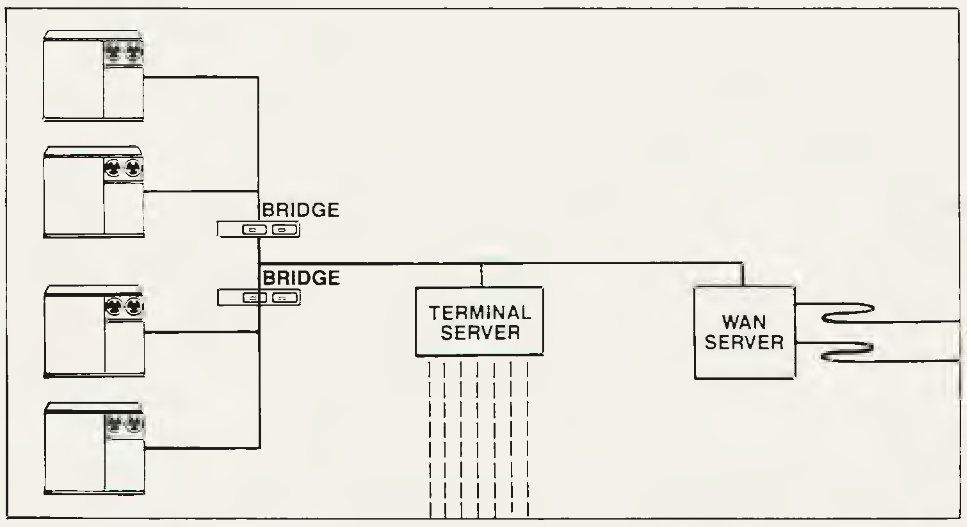
From its table of local addresses for each of its ports, the bridge knows whether a frame should be transmitted from one Lan segment to other Lan segment.

If the destination address is not in the local table, then the bridge will forward to the other port.

If there is traffic on the Lan connected to the other port than the frame must wait before it is transmitted and thus is buffered.



***As the network resources** demanded by the device type increase, the number of devices which can be supported drops*

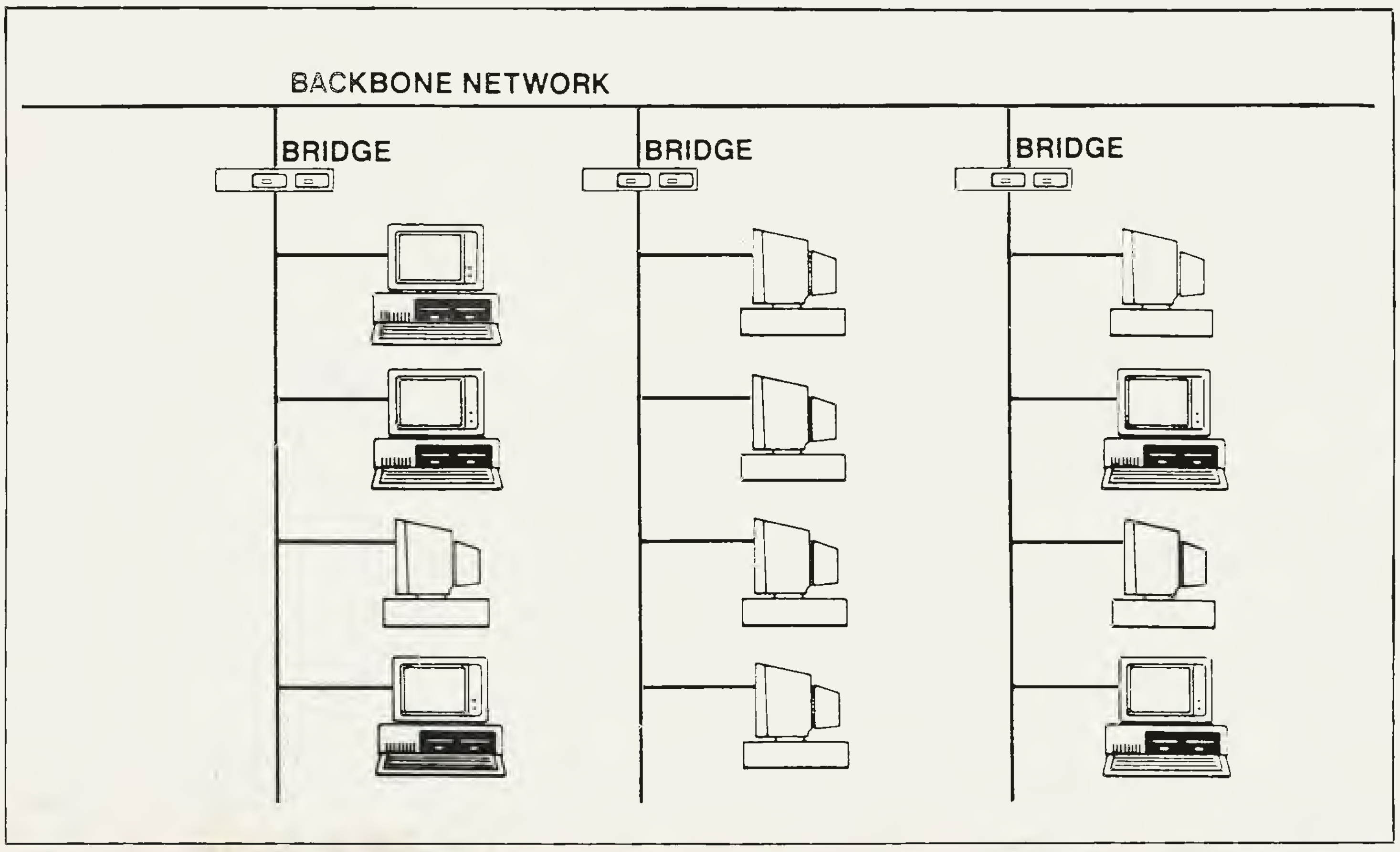


***Clustered** minicomputers create high traffic on a Lan. Using bridges to group and isolate traffic frees capacity for other functions*

Some bridges rely on the table of local addresses associated with each port being entered by the network manager at the time of configuration.

With other bridges these tables are automatically developed by the bridge progressively examining the source and destination addresses on each frame to determine which device addresses are local to each port.

Bridges which build these tables automatically are called "learning bridges".



Backbone configuration in which multiple network segments are joined by a backbone. The bridge in each subnetwork keeps the subnetwork traffic off the backbone. Only packets addressed to a node on a different subnetwork will use the backbone

Benefits of bridges

The main functions performed by bridges are:

- The partition network traffic. When the network traffic load becomes too high, a bridge can segment the network into subnetworks. Each side's traffic will not affect the other, since most of the traffic remains local. Local users maintain full and transparent access to the remote network. A segmented Lan is also more fault-tolerant because failure only affects one department. Failure on a 2000-node network is difficult to find. Isolating failures is easier if the network is bridged into several smaller segments.

- They provide media conversion. Depending on the bridge, different ports can be configured for different media. You can lower the overall cost of a network by using the appropriate technology. For example, run twisted-pair through walls into the bridge, and an Ethernet backbone out of the bridge. Or run a fibre-optic or broadband backbone into a bridge, then thin Ethernet to the workgroups.

- They overcome limitations, IEEE 802.3 Ethernet and Starlan networks span a maximum distance of 500m. Thin Ethernet can go 185m. But because a bridge regenerates the packet signals, these distances are extended. The 802.3 scheme limits the maximum number of nodes to 1024, but bridges extend this by breaking a large network into several smaller ones.

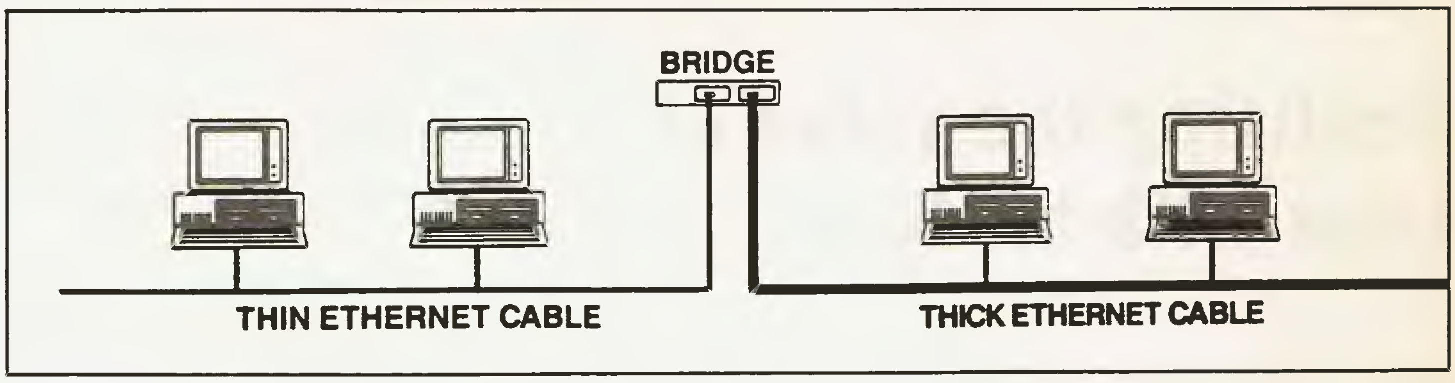
- They link either local or remote Lans. MAC-layer bridges come in two types — local and remote. Local bridges divide a network into two local subnets. A remote bridge connects geographically separate Lans.

(Continued page 28)

ANALYSIS

Realising the value of partitioning Lans with bridges

(From page 27)



The bridge connects two network segments with different media. Protocols must be identical on both sides of the bridge. Frames passed across the bridge are not changed

Bridge performance is usually quoted in terms of the filter or monitor rate and the transfer or forwarding rate. Filter rate refers to the number of frames per second that a bridge can monitor at either of its two ports. Transfer rate refers to the number of frames per second that a bridge can transfer from one port to the other port.

Filter rates are usually quoted as being higher than transfer rates because the bridge port needs only to decode the source and destination address of each frame and determine whether the frame is local or not.

If the frame is local to the port then it discards the balance of the frame. If the frame is not local to the port then the bridge must take the full frame into its buffer and transmit the frame immediately from the second port, providing the media is not carrying traffic, or hold it in buffer till the media is clear of traffic.

Bridge performance rates are often quoted at unrealistically high values which ignore the practical traffic utilisation limits of the CSMA/CD medium.

Some bridge manufacturers misleadingly quote filter and transfer rates in excess of those ever likely to be practically experienced and then claim superior performance because of the ability of their bridge to handle these rates.

An examination of the following simple calculation will clarify this point:
IEEE 802.3 defines the following parameters:

Data rate = 10M-bit/sec
Minimum frame length = 64 bytes = 512 bits
Maximum frame length = 1518 bytes = 12,144 bits
Interframe gap = 9.6 micro seconds = 96 bits

Thus:

Frame rate for min frame size

$$= \frac{\text{10M-bit/sec}}{512 + 96} = \text{16,447 frame/sec}$$

Frame rate for max frame size

$$= \frac{\text{10M-bit/sec}}{12144 + 96} = \text{817 frame/sec}$$

Frame rate for 512 byte frame size

$$= \frac{\text{10M-bit/sec}}{512 \times 8 + 96} = \text{2,385 frame/sec}$$

This assumes that there are no collisions.

It is generally considered that an Ethernet's actual throughput is about 30% of the 10M-bit/sec rate, with systems experiencing excessive collisions and becoming unusable at higher rates.

Thus the maximum practical frame rates on a given Ethernet are:

Min frame size = 16,447 × 0.3 = 4,934 frame/sec
Max frame size = 817 × 0.3 = 245 frame/sec
512 byte size = 2,385 × 0.3 = 715 frame/sec

Thus frame rates of more than 5000 per second are not likely to be experienced by a bridge port in any practical network and therefore filter performance far in excess of this rate is not warranted.

A similar situation applies for transfer rates but is further complicated by the fact that transfer rates of 5000 frames per second are only possible if there is no originating traffic on the Lan on the other side of the bridge.

Lan designers and integrators in the US are realising the value of partitioning Lans with bridges to meet increasing throughput demands as Lans grow in size.

Bridge manufacturers are meeting this demand by placing in the market place bridges which are price-comparable with repeaters.

• Written by Frank O'Brien while a director of Integral Fibre Systems and who is now an independent consultant based in Sydney

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NETWORK WORLD
THE NEWSWEEKLY OF USER NETWORKING STRATEGIES
VOLUME 5, NUMBER 11
MARCH 14, 1988

▶ SATELLITE NETWORKS
AT&T poised for buyout of VSAT-maker Tridom
Carrier to widen satellite services through acquisition.

BY BOB WALLACE
Senior Editor

AT&T is expected this week to acquire Tridom Corp., a Marietta, Ga.-based manufacturer of VSATs, for an estimated $25 million to $50 million, sources close to AT&T told *Network World*.

The sources, who asked not to be named, said the acquisition is all but finalized.

band VSATs from Melbourne, Fla.-based Harris Corp.

Tridom's Ku-band VSAT networks are typically less expensive than Harris-type VSAT networks because they use a shared, master hub earth station. AT&T plans to integrate Tridom's VSAT products into its Skynet family of digital satellite network products, according to one source.

Tridom, a privately held company that does not release financial data, has a solid reputation and holds major contracts with users such as Prudential-Bache Securities, Inc. and Days

See page 8

What Greene's ruling means for the BOCs

▶ INFORMATION SERVICES
Greene loosens

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PRODUCTS & SERVICES

THE LATEST FROM VENDORS AND CARRIERS

Amtec Dart . . . available in mono, VGA or EGA

Australian-designed workstation range

COMPUTER Networks, one of Australia's fastest-growing suppliers of networks and associated networking products, has announced the release of an Australian-designed and manufactured range of workstations called the Amtec Dart. The range, consisting of the Dart 88-10, the Dart 286-10, the Dart 286-16 and the Dart 386-20, has been designed to be one of the most powerful and flexible available in Australia for networking purposes. Apart from working under Novell, the workstations can also be used on all major vendors' Lans, including 3Com, Decnet, Sun PC-NFS and IBM Token-Ring networks.

All models are available in mono, VGA or EGA configurations, and all can be configured to support either 5¼in or 3½in media.

Computer Networks Pty Ltd, Unit 4, 11-13 Orion Rd, Lane Cove, NSW 2066. Tel: (02) 427 1722.

Ethercard works under 3Com, DEC

SYDNEY — Computer Networks has announced that its Amtec Ethercard now works under the 3Com and the Decnet-Dos families of local-area networking (Lan) products. The company claims it has at least several months' lead on other major networking suppliers in being able to provide 3Com and Decnet-Dos support.

The Ethercard is said to offer up to twice the throughput capacity of other Ethernet adapter boards now available for IBM PC/ATs, PC/XTs and compatible microcomputers. Yet, at $A595, it is also claimed to be significantly cheaper than its competitors.

Computer Networks Pty Ltd, Unit 4, 11-13 Orion Rd, Lane Cove, NSW 2066. Tel: (02) 427 1722.

NetComm adds new features to its range of modems

By Noel Bennett

SYDNEY — NetComm Australia Pty Ltd is strengthening its position in the micro-to-mainframe connectivity market and has added new security features to its Datalock range of modems.

In connectivity, the company has added the Netway 1000/PC to the existing Netway 1000/Mac product, both from Tridata.

The 1000/Mac is said to provide a very cost-effective connectivity solution between Apple Macintosh networks and IBM mainframes.

The 1000/PC, for linking IBM personal computers to the mainframe, uses the same hardware as the 1000/Mac with the personal computers required to be linked into a network based on AppleTalk technology.

NetComm claims that traditional personal computer-to-mainframe connectivity solutions require costly co-axial cable connections as well as an expensive 3274 cluster controller.

The Netway 1000/PC includes the software for IBM PCs, incorporating 3278 monochrome terminal emulation as well as 3279 color terminal emulation.

It also includes file transfer capabilities with the mainframe, using the industry standard IND$FILE formats and the Netway 1000/PC is said to support 16 simultaneous mainframe sessions and fully emulates an IBM 3274-51C controller. Multiple Netways can be installed on the one AppleTalk network if more than 16 simultaneous sessions are needed.

NetComm also points out that as the Netway 1000 products provide a common IBM mainframe connection for both personal computers and Macintoshes, corporate MIS departments can achieve clear economies in both purchase and support of desktop connectivity solutions.

Also in the mainframe connectivity area, NetComm has added SNA/SDLC capability to the TrailBlazer range of high-speed modems from Telebit.

The new TrailBlazer Mk 11 modem is said to provide the fastest SNA/SDLC synchronous dial-up connection now available and combines the high performance associated with leased line modems networks with the operating cost efficiencies of dial-up connections.

The model is also said to provide guaranteed error-free data transmission at speeds up to twice as fast as other dial-up SDLC modems.

Existing TrailBlazer Mk 11 modems can be upgraded to support SNA/SDLC by a simple and economical firmware change, NetComm said.

On security products, NetComm claims its Datalock modems were the first desktop modems in the world to include high level Des data encryption as a standard facility. Data encryption requires an error-free data link, so Datalocks also incorporate an error protection protocol. To date this has been a NetComm proprietary protocol as there have been no standards for such protocols.

The CCITT has recently agreed on a new standard for error protection protocols which will be built into modems. This standard, known as V.42, will be promulgated at the next CCITT plenary session in November. The V.42 standard specifies two methods for error correction. The first is the MNP, or Microcim Networking Protocol, which is a widely used protocol developed by Microcom in the US, while the second is called Lap-M, which is a new protocol derived from the Link Access Protocol used in other CCITT standards such as X.25.

NetComm is responding to these standards developments from CCITT by immediately incorporating MNP in Datalock modems.

NetComm says it is a licensee of MNP technology from Microcom and has been developing MNP technology in anticipation of the CCITT announcement, allowing it to respond quickly. The initial MNP offering from NetComm will be at MNP class 4. This provides a synchronous bit-oriented, full-duplex method of exchanging error-free data as well as incorporating Data Phase Optimisation to lower protocol overhead and increase link efficiency.

MNP incorporates an auto-negotiate option which allows a NetComm Datalock modem to determine whether a remote modem has MNP facilities, and if so, what class of MNP is supported. The modems will negotiate an MNP connection at the highest class supported by both modems. If the remote modem does not support MNP a Datalock modem will fall back to a connection which does not employ MNP error protection.

As well as the auto-negotiate MNP mode, a Datalock modem can be programmed

(Continued page 30)

Lansmart advanced operating system

DATAEDGE has announced the release of the Lansmart local-area network system from Datex systems. Lansmart, the result of two years' development work by more than 30 programmers, is an advanced network operating system for PC/XT/AT/386 and PS/2 systems and is compatible with both the D-Link DN-001 1M-bit/sec twisted pair and the DE-001 10M-bit/sec Ethernet hardware cards. Lansmart is a Netbios and Dos 3.1+ file/record locking compatible system suited to users running such multi-user applications as dBase III+, Lanpack, Foxbase+, Dataflex, Q&A Network, WordPerfect 4.2 and PFS Network.

Lansmart's standard features include pop-up menus and context-sensitive on-line help, network functions available as hot-key Ram resident or command line invoked, disk cache facility, five levels of file protection and password security, and serial-parallel printer support and management. Optional facilities include remote-boot for diskless workstations, electronic mail, screen monitor, bridge to interconnect between 1M-bit/sec and 10M-bit/sec hardware, and an asynchronous communication server. The recommended end-user price per site, regardless of nodes connected is $A499 plus tax.

Dataedge Pty Ltd, Suite 6, 250 Gore St, Fitzroy, Vic 3065. Tel: (03) 419 8400.

Compact multiport modem splitter

COMMUNICATIONS house Professional Australian Systems has released a multiport modem splitter which enables up to six terminals or other synchronous devices to be connected to the same modem. Priced at $A498 for the basic unit, the Pas 5102 is claimed to be about half the size of similar units on the market while providing full functionality. The units are designed for use in remote data capture or node situations where multiple terminals or other terminating devices are needed without continual connection to a remote host. The unit is available in a basic two-port configuration and can be upgraded by the user to a total capacity of six ports. The splitter continually polls all ports until it receives an RTS call.

Professional Australian Systems, 5 Cochrane St, Mitcham, Vic 3132. Tel: (03) 874 2233.

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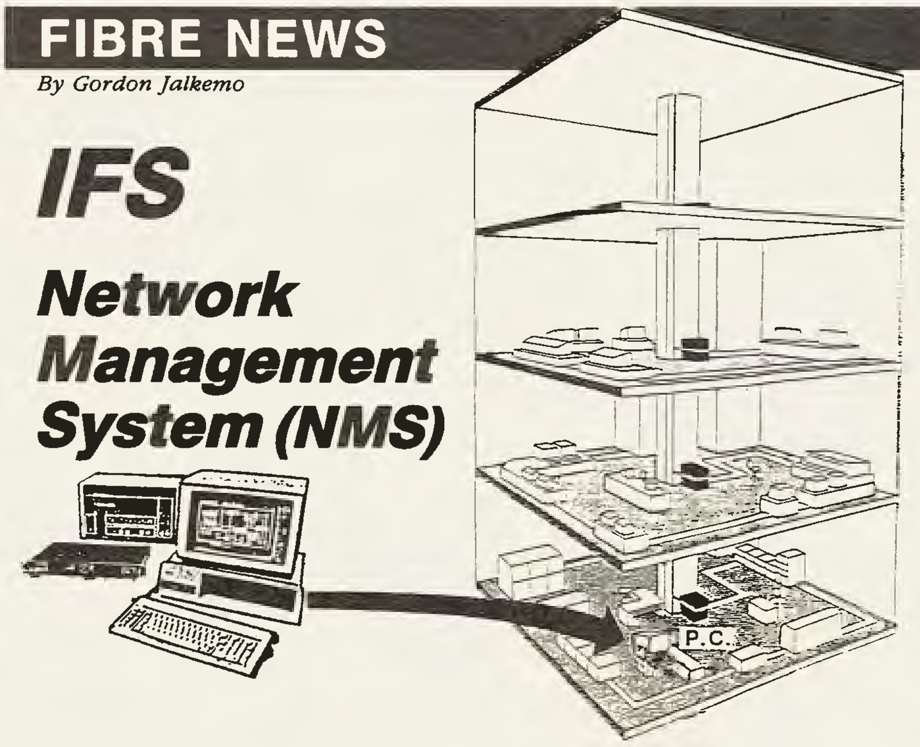
FIBRE NEWS

By Gordon Jalkemo

IFS

Network Management System (NMS)



Integral Fibre Systms (IFS) is an Australian company which is fast developing a reputation for excellence in the design, development and implementation of fibre based local area network technology.

A member of Andrew Sweeny Electronics Group, it is also sole distributor of the world leading Fibronics product range in Australia.

The Fibronics Network Management System consists of a stand-alone NMS controller located at each major node in the network, with a buffering unit and IBM PCXT or compatible unit in the central computer room. The system controls and monitors activity on complex communication networks.

The Fibronics Network Management system includes technology for performing self-tests, diagnostics and automatic back-up. It can be easily connected to other types of communication equipment using RS 232, TTL or dry contract interfaces.

The Fibronics NMS provides software that guides the user through network maps in order to monitor, analyse, detect faults and origin testings:

- Network Topology map — a general view of the whole network.
- Location description map - All instruments located within a single location (connected to a single NMS controller).
- Instrument panel view — Panel view of each instrument type in the network. Controllable instruments can be remotely controlled from the IBM PC. The immediate response can be viewed in order to analyse errors and operational status.
- Network Management Capability of more than 30,000 devices from one single PCXT.
- Special facilities for easy monitoring, such as general view of the network, node zoom, remote panel and help menus.
- Advanced features including real time status monitoring, event reports and channel diagnostics, local and remote channel and device loopbacks, and device status monitoring.

INTEGRAL FIBRE SYSTEMS
Unit 6, Rodborough Road, Frenchs Forest, 2086,
Telephone: (02) 451 7033

PRODUCTS & SERVICES

Big improvement claimed

SYDNEY — Pyramid Technology Australia's new family of minimainframes computers, the Series 9000-TA, offers a 60 to 100 per cent performance improvement in communications networks over the previous models, the vendor claims.

This is in line with the claim that the product has been engineered specifically to enhance overall system performance in commercial Unix environments such as database, networking and software development applications.

The Series 9000-TA includes four models — 8915, 9825, 9835 and 9845 — ranging from one to four processors incorporating Pyramid's Risc-based multiprocessing system.

Improved performance is said to come from combining architectural design improvements with the release of DualPort OSx 4.4, Pryamid's Unix operating system.

In line with the improved communications network performance, the vendor says that the new systems offer up to 300 per cent improvement in terminal-intensive environments.

Other claimed performance improvements over Pyramid's Series 9000 family range from 35 to 75 per cent for database applications and 30 to 75 per cent for software development environments.

"The Series 9000-TA reinforces Pyramid's commitment to price/performance leadership and continued technological innovation in the commercial Unix environment," said Lionel Singer, Pyramid Australia chairman and managing director.

Pyramid Australia has had 9000-TA systems installed in its branch offices for several weeks now and has sold and installed the first 9815 to the Sydney-based head office of a multinational liquor manufacturing and distribution organisation.

Portable scope weighs under 1kg

THE Model DS-200 Portable Datacom Scope from K&C Technologies combines the features of a serial data line monitor and digital test set into a hand-held package that weighs less than 1kg. It comes complete with a 256 x 64 pixel backlit, twisted crystal display and vinyl carry-case. Functions are easily accessed using the keypad which is provided with "soft" function keys. Online "help" and screen prompts make the DS-200 a breeze to use. Power is provided by internal NiCad batteries or external 9V plug-pack. Main functions of the DS-200 are monitoring, simulation, bit/block error rate test, auto configuration, line status display, terminal emulation and data dump out. The DS-200 is also available with current-loop, RS422 and RS485 interface converters and a breakout box thus providing a complete asynchronous comms test facility solution. The DS-200 is intended to be an indespensible part of every datacomms test engineer's toolkit.

Electro Optics Pty Ltd, 84 Porters Rd, Kenthurst, NSW 2156. Tel: (02) 654 1659.

Datacom scope . . . hand-held

Hub expands IBM Token Ring

IBM Token Ring local-area networks that are outgrowing their multiport hubs can now be expanded incrementally without major hardware or cabling changes, said Madge Networks, whose Local Ring Hub can connect extra workstations through an existing Token Ring wall outlet. The Local Ring Hub requires no external power supply and complies with the IEEE 802.5 Token Ring standard, said managing director Robert Madge. Each hub can link up to four PCs equipped with adapters to a Token Ring socket or MAU port, Madge said. Up to three hubs can be daisy-chained together, supporting up to 10 PCs from one Lan connection.

The Local Ring Hub is shipping now and costs $US445, Madge said.

Madge Networks Inc, 534 Salem Ave, SW, Roanoke, VA 24016, US. Tel: (703) 982 0638.

Australian agent for networking systems

SYDNEY company Mostyn Enterprises has been appointed the sole Australian agent for Nestar Systems of Mountain View, California. Nestar Systems make a range of local-area networking systems suitable for small to large networks. A full range of software is available. Interfaces to IBM PC, XT, AT and the PS/2 range. Support for Arcnet and token ring is available.

Mostyn Enterprises, PO Box 134, Rydalmere, NSW 2116. Tel: (02) 871 6311.

NetComm adds new features to its range of modems

(Continued from page 29)

never to use MNP or to establish a connection only if the remote modem supports MNP, NetComm said.

A NetComm Datalock modem will now support MNP class 4 error correction in addition to the popular features of Des data encryption, password security access, constant speed interface, flow control and builtin help screen. MNP class 4 is selectable as a facility on its own or is automatically selected when data encryption is activated.

NetComm Datalock modems now not only provide access security, to keep out hackers and Des encryption, to stop eavesdropping, but also provide a CCITT recognised error correction standard to give error free data transmission to other MNP Modems, the company said.

Existing Datalock modems can be upgraded to support MNP class 4 via a low-cost firmware update.

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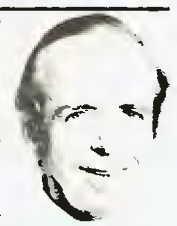
INTERRUPT

'No meetings' rule a disaster for the hot air brigade



OFF LINE BY NOEL BENNETT

CONSTERNATION swept the upper floors of the Konnec-U Komunikations Co, specialist in services and goods for Wans, Mans and Lans. Some customers, perhaps unkindly, thought the company also engaged in scams.

The wrinkled brows, tapping pens on desks — smoking had been prohibited — and constant walks to the coffee-maker, the focal point of communications within the company, had been caused by a newspaper report saying that meetings had been scientifically proven to be a waste of time.

The upper echelons of the company knew from practical experience that this observation was true. They did not need learned study to prove it was so.

But, meetings served a very useful purpose, not perhaps for the true interests of the company and its shareholders, but for those participating. That is, meetings were an integral part of management "gamesmanship" and internal politics.

At meetings, the gifted, the articulate, the artful could convincingly demonstrate the impossible load of responsibilities they were cheerfully but manfully, or womanly, carrying and that any failure in assigned tasks was not theirs, but that they had been let down by others, struggling under a similar burden, but not, not really as onerous as their own.

Plausibility was the essence in practising the credo: "Don't be selfish, don't keep the problem to yourself but share it among others." This was in keeping with the injunction of "give all thou hast to the poor", so problems should be given entirely unto others.

Sadly, many management textbooks completely omitted these indispensable guides to upward mobility. Mr Get a Head was not worried about this failure, as he never read, believing that reading only confused and stultified native wit, essential for survival in the corporate jungle.

But the inevitable happened. The new managing director, Mr Clean It Up, called his first meeting. He had been appointed after the dismissal of Mr Top Of the Heap by a newly-elected board following a revolt by shareholders objecting to the company's dismal balance sheet and its unsavory reputation.

"Gentlemen," Mr Clean It Up began, "I have called this meeting 'The Last Meeting'. An apposite title for a film don't you think, Mr Get a Head?"

"Yes, Mr Clean It Up. 'Quite apposite'. Rather a droll sense of humor, if I may say so sir," Mr Get a Head said, concentating as he never had before — disaster was looming.

"Thank you. But while I have seen that many of you apparently aspire to a role on the stage or in a film judging by your acting and posturing, we are not in film making. This is not a fiction, we are in the real world. Products and service."

Taking their cue, those attending echoed "Products and Service", most with bowed heads, almost a reverential genuflexion. "Products and Service" they murmured, but thinking desperately, as with Mr Get A Head, of how they were going to get by now. However, Mr Clean It Up quickly shattered this stained glass sentiment by saying:

"I have drawn up this memo pad to be used as a model for further communications. You will notice that there are two lines to define the problem, one line allowed as to how you will fix it and by when. It will be handwritten. Lest we engage in a paper war, you will be only allowed two such memos a week.

"For similar reasons, the electronic mail facilities are withdrawn. Many of our customers have found this tool to be most effective. However, I have found that many of you use this apparatus for entirely frivolous tasks, such as making dates, making bets on the current sporting championships.

"Also, all telephone information facilities are barred for I have again determined that many of you are dialling up *The Joke Book* and *Ski Weather* forecasts and other such frivolities. Questions?

"No. Then let's get to it."

So revitalised, the company, renamed Communications Connections, prospered, the shareholders were happy and its products and services were second to none.

Many years later when interviewed by the business press and asked how he turned the company around, Mr Clean It Up, a man of few words, answered: "Silence is golden and action is pure platinum."

Meanwhile, Mr Get A Head had found that his true destiny was acting in television commercials.

US Democrats find that high-tech beats shouting down the hall

IDG News Service

ATLANTA — A $US650,000 communications system solved what could have been a logistical horror story for the organisers of the Democratic National Convention.

The director of information systems. Roger Schneider, hand-tooled the network during the past seven months.

"Four years ago, our major means of communication was yelling down the hall," said Schneider. "Right now, we're sitting on top of 245 personal computers and 23 miles of fibre-optic cable." The system solved the problem of cramming more than 40,000 delegates, party members and press people into Atlanta's 17,000 seat Omni Auditorium. The solution was to divide the spillover between the adjacent Georgia World Congress Centre and several hotels and then weave a communications web of local-area networks and television hookups.

The core of the system used Novell's Netware 2.1 operating system.

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ADM/C'S 7/88

NEWS

Jokes may not be funny when the bill arrives

By Noel Bennett

SYDNEY — Unless businesses manage the introduction of Telecom's new "poor man's Videotex", the 0055 service, they may incur unwelcome costs overruns in their corporate telephone bills.

The new service, presaged by household and television advertising, offers telephone users the ability to obtain a wealth of information ranging from financial markets through jokes to a Formula One Grand Prix hotline.

The 0055 service is aimed principally at the domestic market. Its essence is that Telecom's element of the charge is distance-independent.

The information provider then adds his charge for providing the information required.

It is understood from a Telecom spokesman's remarks that businesses at this stage will not be able to bar certain 0055 services deemed undesirable in a business context — jokes, for example — from those which are, such as financial services. The business could, on the other hand, bar access to all 0055 services. However, it is expected that modern PABXs will be able to soon effect this discrimination.

The Telecom spokesman added that there was no technical reason why a subscriber could not receive the messages from the information provider by facsimile, but it is understood that no provider is offering this facility at present.

As to tape recording the information supplied, it would seem there would be no legal obstacle to this procedure which some clients may find necessary as it would be difficult in some cases to remember in full what was said. The information itself would be copyrighted. The spokesman added that a breakdown in Telecom's billing so as to designate those 0055 services used would not be available until the end of 1989.

At this stage, more than 3500 lines will be offered through the 0055 service by some 16 information providers and this is expected to grow to some 6000 lines within six months. Initially, 0055 will be automatically available from the more modern telephone exchanges — 80 per cent of those in the city and 15 per cent of those in the country — with more and more subscribers being added as exchanges are upgraded.

Message lengths may not exceed 10 minutes with the average price of the service being about $A1.20 and at the top end, $A6.32. These prices are set by the information providers.

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Local Loop

Online education

Auckland, — The communications facility at Victoria University is planning to explore the application of ISDN to distance education in a practical context. The ISDN will be simulated. Telecom has not yet implemented full standard ISDN, but should be able to provide some of its facilities, including teleconferencing, so that part of the communications courses can be conducted and managed online, said communications professor John Tiffin.

World first for Ampol

Sydney — Ampol is ICL's first customer worldwide to use a system solution based on ICL's DRS multi-user, multitasking network station running under Unix. During a trial period, DRS 300/NX units were installed at three of Ampol's distributors and as others are added, they will be connected to an ICL Clan via X.25 and from there will link into the company's NAS mainframe via SNA.

Daewoo in Hong Kong

Hong Kong — One of South Korea's largest companies, the Daewoo Group, has obtained a foothold in the Hong Kong market with the appointment of Arnhold & Co as the Hong Kong agent for its telecommunications unit, Daewoo Telecom. Arnhold will market and service a range of products from Daewoo Telecom, including personal computers, PABXs, telephones, telephone systems, and modem cards. Arnhold, a supplier of engineering and building products to Hong Kong and China, also offers advanced telex machines and transmission products and systems.

The Times on toast

Sydney — *The Times,* and *The Sunday Times* are now available in Australia through an online computer service. Subscribers to Ausinet, the computerised information retrieval system operated by ACI Computer Services, are able to have instant access to news and feature articles dating back to July 1985. In their computerised form, both newspapers will be combined in one file which will be updated daily. Ausinet users will be able to search files very quickly for the articles that interest them, then call up on their terminal the items they need.

Orders for stations

Helsinki — The Posts and Telecommunications (P&T) of Finland has placed an order worth some $US50m with Cellular Systems for the delivery of base stations and mobile exchanges for the NMT-450 and NMT-900 cellular mobile networks. First deliveries of the ordered equipment have already taken place. The P&Ts of Norway and Denmark, have also placed orders for Nokia base stations for their NMT-450 and NMT-900 networks. Worth some $US25m, the orders give Nokia a 40 per cent market share in base stations for the Nordic NMT system, the world's largest single cellular mobile system.

Staff get a fare go

Sydney — Qantas staff members now have instant access to the latest information on staff travel opportunities through an electronic notice board system based on the BBC microcomputer videotex system. According to Jenny Lourey, manager of the staff travel department, the videotex system is a first for Qantas and allows staff members to take advantage of offpeak seats and special offers. Software was supplied by Software Sciences, North Ryde, NSW.